Better Equipment for Southern Mills

SOUTHERN TEXTILE BULLETIN

VOLUME 26 CHARLOTTE, N. C., THURSDAY, MAY 22, 1924. NUMBER 12

SOUTHERN TEXTILE BULLETIN

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Improved Opening Machinery

By a Representative of the Saco-Lowell Shops.

ENGLISH cotton mills have always paid a great deal more attention to their opening and cleaning equipment than American mills. On account of watching this department carefully, and with their more improved opening machines, they are able to buy lower grades of cotton for a higher class yarn or cloth than the average American mills.

The Creighton opener was first built about sixty years ago. This machine was very popular, but its popularity was enjoyed only for short period because of many inherent mechanical defects; improper bearings, and also lack of proper machinery for feeding.

The vertical position of the cylinder made necessary the use of a step bearing to support the heavy cylinder. It usually consisted of a hardened steel plug in the base, a similar plug set in the end of the cylinder shaft and a double convex washer of hardened steel between. As it was located in the center of the machine, it was directly in the path of sand and lint falling from the working chamber, and could neither be reached nor seen while the machine was running. In order to protect it from sand and keep it cool, it was encased in a water jacket, fed from a reservoir at one corner of the machine. An oil reservoir was also provided to lubricate it. This bearing was a constant source of trouble, and frequently became hot enough to cause fires, which spread to the machines following or to the bins of open cotton. This machine soon came to be regarded as too great a fire hazard, and mill men believed that the opening and cleaning advantages of this machine were not sufficient to more than balance this fire hazard.

About twelve or thirteen years ago, one of the largest American manufacturers of cotton mill machinery, realized the importance of this machine as an opening and a cleaning machine, and after many months of experiments adopted an entirely new kind of bearing, which overcame all the old bearing defects, removing completely the fire hazard. They also designed a new type of drive to tke the place of the original balance rope drive, which was a considerable trouble to mills, due to frequent breakages, and then the machine became popular with American mills.

There are probably in use in American mills now, twelve hundred Vertical or Creighton openers, but there are still today many mills that do not have this opening and cleaning and cleaning equipment, and they should investigate its advantages.

Vertical openers are now being installed in certain American mills in tandem. Some mills have cotton passing through two vertical openers and some three. In cases where cotton passes through two or three vertical openers, the first machine successfully takes out the heavy sand and second machine takes out as much in quantity, but about half as much in weight as the first. The second machine begins to take out large pieces of leaf, and considerably raises the grade of cotton. Where a third machine is used, it out about half as much in weight as the second machine, but this third machine's droppings consists largely of leaf. It is clear to the practical mill man that this leaf and sand is removed at this stage in the process of cotton yarn manufacturing, that the leaf will not be pulverized in the picker, and be in such condition that it is almost impossible for the cards or the latter machinery to remove these fine specks. Many mills state that their cotton is raised at least one grade by passing through Vertical openers.

Vertical openers do not injure the staple of cotton, whether it be short cotton or long staple cotton. We believe that the manufacture of the Vertical opener, with its mechanical improvements, has been one of the greatest forward steps toward the betterment of cotton mill equipment.

In connection with the openers, it was necessary to develop a better method of feeding this equipment than was formerly known. The light feeders which we use to feed breaker pickers were too light to successfully handle tightly compressed bales, without a previous opening. Statistics show that extra hard compressed American bales, which averaged 23 pounds per cubic feet before the war, are now compressed to approximately 35 pounds per cubic feet. Experience has proved that it is more practical to open gradually by using a series of machines, arranged to work automatically with each other, than to open it completely on one machine. This is done to eliminate injury to the weaker fibers and to automatically deliver cotton from the bale to the picker room in a clean, well opened fluffy condition.

The modern bale breaker which is built to feed one, two or three vertical openers, is equipped with a long feed apron, so that the mill can mix a number of bales right on the bale breaker apron. This bale breaker is so equipped that regardless of the amount of cotton on the apron, a regular amount is fed to the opening equipment.

Every practical mill man has known for years the value of ageing cotton by piling up layers from various bales by hand, to allow the fibers of cotton to gradually open and straighten out through the absorption of moisture from the air. This process was slow, and required a large amount of space and hand labor. The modern bale breaker was designed to automatically, with the cheapest labor cost possible, take the place of this old method, as the machine is so arranged that layers from compressed bales can be fed directly into the opening equipment by a bale breaker.

We do not think that too much stress can be laid upon proper opening and cleaning equipment.

We do not think that too much stress can be laid upon proper opening and cleaning equipment.

Every mill does not need the same equipment, but any mill that does not have one of these modern systems of opening and cleaning certainly has need of it.

Conveying Equipment.

The modern spinning mill now has an opening room adjacent to the cotton warehouses. The opening equipment delivers the opened cotton to a galvanized iron pipe line. The cotton is conveyed through this pipe line to the picker room by the use of an exhaust fan and condenser. No cotton should pass through the fan on account of the great fire hazard. Therefore the cotton now is not blown to the picker room but sucked to the picker room. Conveying systems properly fed give no trouble and save all the labor that would be required to truck cotton from the warehouse to the mill.

The cost of an opening, cleaning and conveying system for a production of about 10,000 pounds in ten hours would be approximately $4,000. This system would easily eliminate the services of one man. Figuring his services at $900 per year, a mill would then save $900 annually on a $4,000 investment. Such savings as these are always interesting to a progressive manufacturer.

Automatic Distributor.

The essential requirement of a picker lap is its evenness of weight, which depends largely upon the regularity with which the stock is delivered from the automatic feeder. To obtain a regular feed, stock in hoppers must be maintained at a uniform level.

Feeding by hand requires constant attention and an immense amount of hand labor. The Morton automatic distributor provides a regular, constant feed without attention. Cotton is dropped from a condenser on to an endless belt automatically delivering it to any number of hoppers. Proper adjustments are provided for regulating the amount of cotton to be fed to each hopper, resulting in an even weight of laps and a uniformity of blend and mixing of the cotton.

The cost of a distributor equipment for four breaker pickers installed is about $1,600. By this $1,600 investment, a mill should be able to eliminate one man. Again a labor saving of $900 can be made on a $1,600 investment and still improve the quality of work.

Picking Equipment.

The new features of pickers are largely refinements of the principles of the original lappers.

The lapper has two distinct functions, the removal of dirt and the forming of stock into a roll or lap. The first is accomplished by the beater and cleaning grids, the latter by the united action of the fan, screens and calender rolls. Inferior laps mean inferior work on the cards and subsequent processes, therefore today the picker room is

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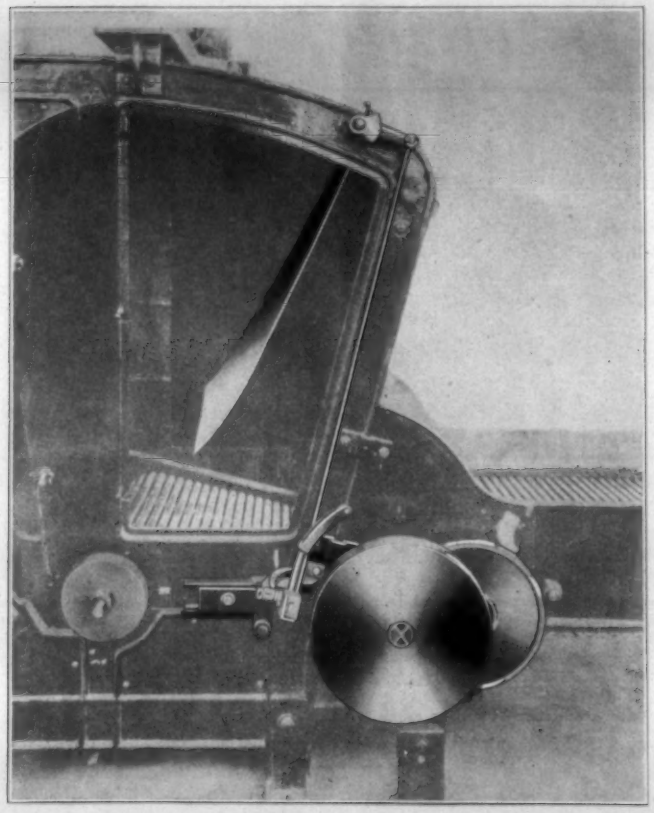
Improved Opening Machinery

THE various machines that are made by the H. & B. American Machine Company, Pawtucket, R. I., for the better opening of cotton are described in the following article. The informtaion concerning these machines is supplied by a representative of this company.

Automatic Regulator for Hopper Bale Opener.

Their patented automatic regulator for the hopper bale opener is designed to stop and start the feeding apron as the machine requires it, so as to keep a uniform height of cotton on the hopper at all times. This regulator ih made to insure a steady and even feed, thorough and even opening and to prevent choking. The makers recommend a long feeding apron at the back of this machine so that the operator can deposit layers of cotton from several different bales of cotton at one time, in this way providing for a good mixing of the stock.



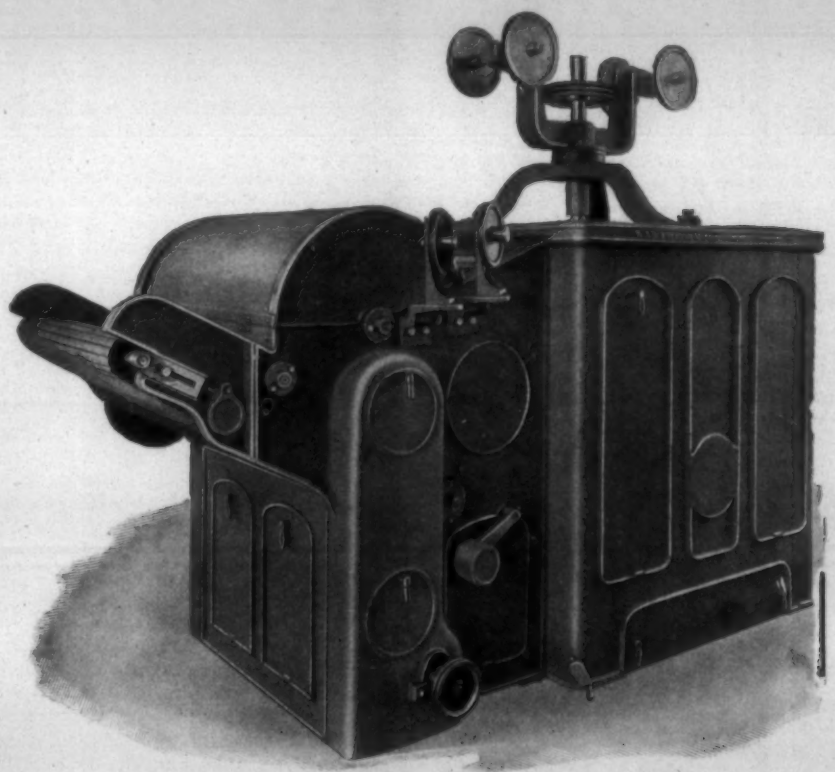
H. & B. Patent Automatic Regulator for Hopper Bale Opener.

Crighton Opener.

The Crighton Opener has been in long and successful use in England and the H. & B. American Machine Company has also made a large number of installations in this country. On account of its excellent cleaning qualities, it is especially suitable for working low grades of cotton. Another advantage of this machine is that it can be adapted for use in almost any combination of opening equipment.

English Cleaning Trunk.

The English Cleaning Trunk is manufactured in sections, these coming in four-foot lengths and being supported by stands on the floor. It is common practice to couple several of these sections together. In operation, the cotton is drawn over vertical sheet iron plates and grids and a considerable amount of dust leaf, trash and seeds is shaken out and deposited in the spaces between the vertical grids. This machine can be cleaned by dropping doors which cover the entire bottom of the trunk and carry the grids.



H. & B. Crighton Opener.

Buckley Opener.

The term "Buckley" has been in use in this country for many years and, as generally understood, has referred to the type of beater rather than to a complete machine unit.

The original Buckley Opener was the outgrowth of the Willow, the most essential feature of which was the large cleaning area obtained by the upward stroke of the beater. Continued experiments and improvements have greatly increased the efficiency of this machine. It is now universally used in England on both medium and long staple cottons.

The H. & B. American Machine Company has recently brought out

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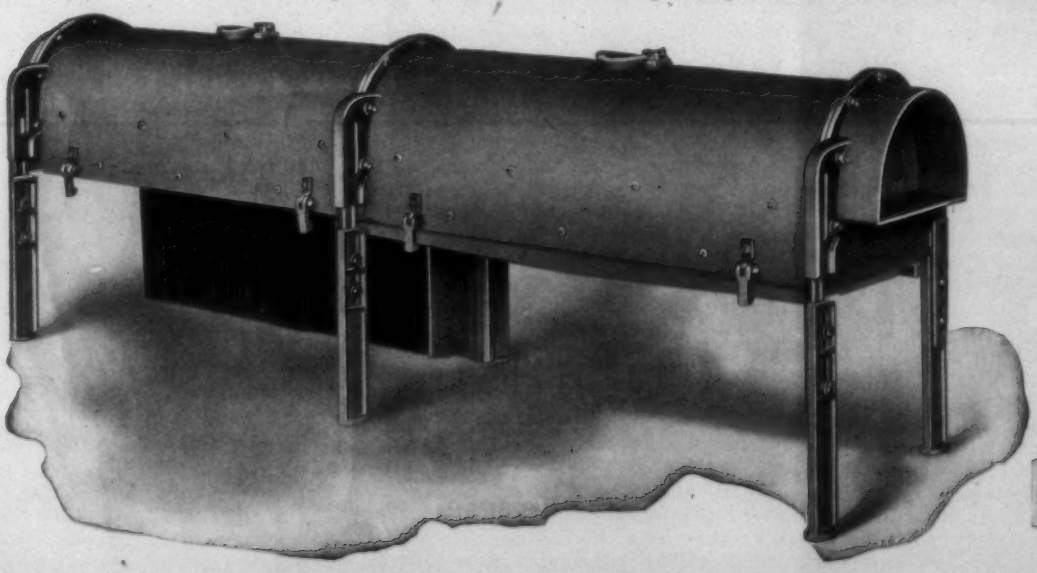
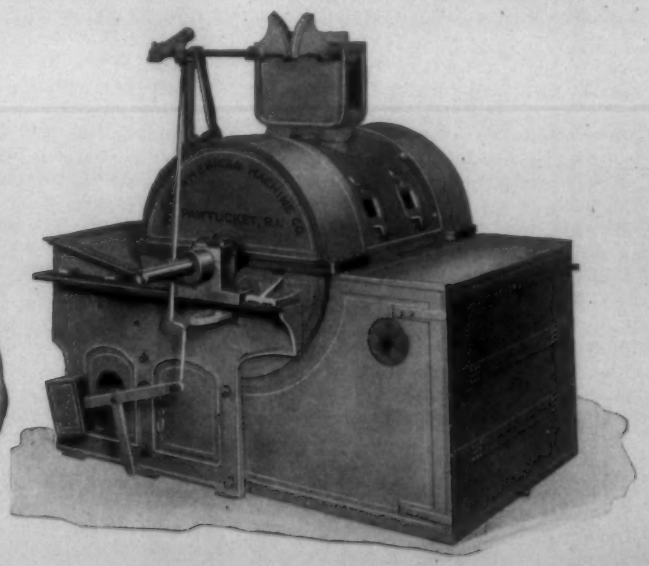


H. & B. English Cleaning Trunk.



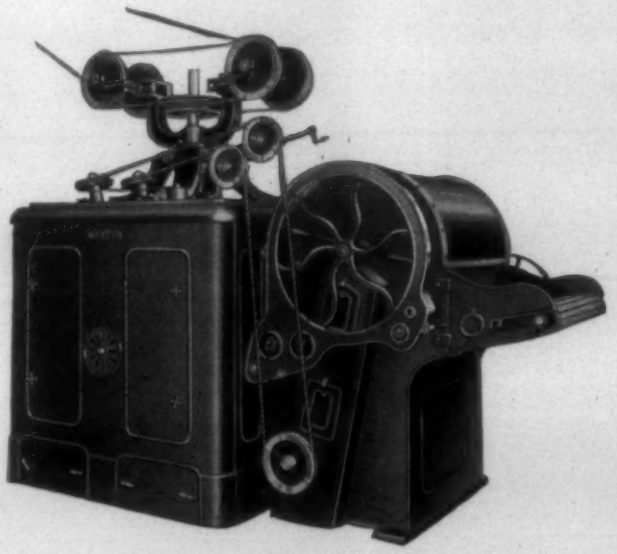
H. & B. Exhaust Opener.

Whitin Picker Room Machinery

By a Representative of the Whitin Machine Works.

IN 1831 the Whitin Machine Works came into existence when it started to build the picker invented by John C. Whitin. From that year until 1885, approximately, we continued to make pickers, discontinuing at that time to put our energy into bringing out other improved types of the many classes of textile machinery which we build. However, in 1913, we again entered into the field of picking machinery and brought out the Whitin improved type of Atherton picker.

Since 1913 we have gradually increased in number as to type of machine from the making of breaker, intermediate and finisher lappers to the inclusion of bale-breakers, condensers, automatic distributors, automatic feed and gauge boxes, evener motions, openers, dust trunks, willows, and recently we have added vertical openers with rope or belt drive, hard waste machines and the improved C. O. B. machine, and each and every machine is built with the usual Whitin skill, care and quality.



Whitin Vertical Opener, with Rope Drive.
(This opener is also made with belt drive.)

Every mill man knows the damage that can be done to cotton as it goes through the picking room due to excessively hard beatings. A poorly run picker room means curled fibres, poor cleaning and much good cotton fibre broken and lost.

In all our picking machinery we aim at giving the mills the opportunity of cleaning and preparing the cotton with the minimum amount of injury to the fibres.

Like all our machines the Whitin bale breaker can be set to give worker, with a production which, though amply large for all purposes, means quality. If necessary, this bale breaker can ge set to give quantity.

The Whitin Machine Works make two styles of openers, the old style with the well-known buckley type of beater, usually fed by an automatic feeder, and our new style, the Whitin vertical opener. The latter gives a much greater production, 6,000 to 10,000 pounds as against 5,000 pounds for our old style opener. There is, however, always the danger in any rotary method of opening cotton of not only curling the fibres, breaking good fibres, but also of balling up the cotton into tight bolls whereby it is most difficult for the beaters to extract the remaining leaf, sand, grit and that fine peppery stuff which does so much to dull the card cylinder fillet, the top flats, and even which is seen dropping on the roller beams as the yarn passes through the spinning drawing rolls.

It is this situation that the Whitin Machine Works is attempting to meet by the development of their C. O. B. cleaning machine—a machine designed to clean, open and bloom the cotton by means of agitating by the action of a blast of air the partly opened cotton against vibrating adjustable fingers — the gentlest, the most harmless method of cleaning cotton. This process means less work for the cards, combers, less waste throughout, and a better, stronger, higher quality of yarn.

As mentioned in the early part of this article we make what might be termed the accessories to a picker room. By this we mean condensers, automatic distributors, automatic feed and gauge boxes, dust trunks and evener motions. All of these machines are made to stand hard and exacting work, and in all ways are assembled with the utmost care. The evener motion has been developed to a point of great sensitiveness and has, when attached to the breaker picked, done away with the intermediate process of picking in many cases. As always, any opportunity to talk over possible additions or changes in picker rooms is always welcomed.

In the up-to-date lapper, both breaker and finisher, as built by the Whitin Machine Works, one will find the most approved principles applied. All beaters run on silent ball bearings, which mean less upkeep, less oil, less friction and less

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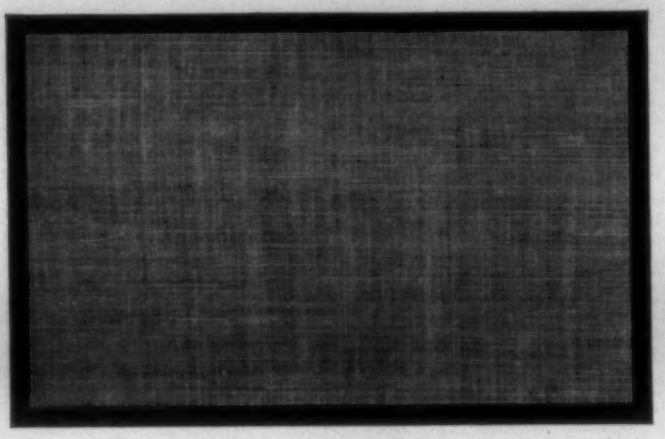
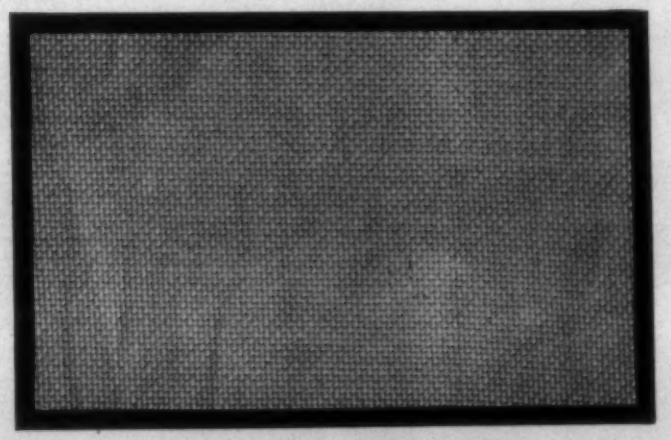
Imported Cotton Cloths

From Survey of United States Tariff Commission.



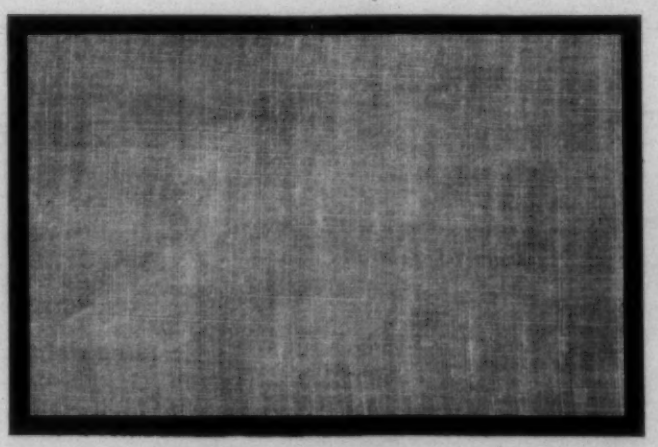
Sample No. 16.—Grey Cambric.

Plain woven. Grey width, 52½ inches.
93 ends and 83 picks per square inch, in the grey.
Warp yarn, 54s. Filling yarn, 64s.
Weight, 5.22 linear yards (7.61 square yards) per pound, in the grey.
Unbleached.



Sample No. 17.—Matte Shirting

Plain basket weave. Finished width, 36 inches.
132 ends and 60 picks per square inch, finished.
Warp yarn, 84/2. Filling yarn, 41/2.
Weight, 3.72 linear yards (3.72 square yards) per pound, finished.
Bleached and mercerized.



Sample No. 18.—Cambric.

Plain woven. Finished width, 36 inches.
95 ends and 68 picks per square inch, finished.
Warp yarn, 66s. Filling yarn, 69s.
Weight, 9.14 linear yards (9.14 square yards) per pound, finished.
Bleached.

Deterioration of Duck When Waterproofed

From a paper before meeting of American Society of Mechanical Engineers.

A DECIDED deterioration in the strength of canvas which could not be attributed to mildew or bacterial decay has been observed in an investigation on the effects of continuous exposure to the weather upon the water-resistance of treated canvas. This occurred when drying oils, which are commonly believed to "rot" canvas, were used, and also when the canvas had been treated with materials, ordinarily considered inert. Accordingly, a study was made of the effects which waterproofing materials have upon the tensile strength of cotton yarn when exposed to the weather. One of the most striking facts thus shown was that the addition of burnt umber to a drying oil treatment had a marked preservative effect upon the strength of the treated and exposed yarn. This suggested the possibility that pigments, when added to the waterproofing formulas developed in the laboratory, might reduce the injurious effects of the treatments upon the strength of cotton duck exposed to the weather. Further investigations were therefore started. Cotton duck was used, as the effects of treating materials upon yarn are not strictly applicable to woven fabrics.

In the investigations reported in Industrial and Engineering Chemistry particular attention was given to a comparison of two waterproofing treatments, which in previous tests had caused rapid deterioration of canvas, with treatments which were identical therewith except that they contained mineral pigments. Twenty-three pigments, including two asphalts, were used.

The effect of pigments in protecting fabrics from deterioration by sunlight has received some attention from previous investigators. In discussing the deterioration of doped aeroplane fabrics, Turner states that it was observed early in the late war "that where paint was used on the doped fabric, such as for identification circles on the wings, the fabric had not deteriorated nearly so much as at the unpainted parts." Turner, however, did not present any comparative data. Furthermore, Perrott and Plumb state that "as high as 20 per cent of carbon tends to preserve the fabric (rubber gas mask), especially when exposed to sunlight." This statement, however, was based on the performance of a single sample.

The use of pigments for protecting fabrics against the deteriorating effect of sunlight is covered, to some extent, in a patent granted to Gardner. In his specification the patentee states that he may "add to the ammonium phosphate solution (used to fireproof the fabric) from 2 to 10 per cent by weight of a pigment such as red iron oxide or carbon black, the purpose being to stop the light rays which affect the strength of the fabric." In this patent the use of one or more coats of dope containing, aluminium powder is also specified, since, "due to the high light-reflecting surface of the fabric, the cloth remains strong for a long period of time." The exposture tests here described, however, had been begun a month before the granting of this patent, and they were completed before the patent came to the authors' attention.

The straight waterproofing treatments included the four formulas recommended in Farmers' Bulletin 1157 (one slightly modified) and four of the 18 formulas used in the weather-exposure tests reported by Veitch and Jarrell, as well as several others developed in the laboratory. While they are called straight waterproofing treatments to distinguish them from those to which pigment was added, several of them—those containing asphalt or pitch—might be said to contain pigment, the asphalt and pitch having a tendency to color the fabric and shut out the light. Three commercial preparations, none of which contained pigment, were used for comparison with the treatments developed in the laboratory. These commercial treatments were used in the condition in which they were received and according to the directions accompanying them.

The solid treating materials were weighted out in the proper proportions, mixed, melted and poured into the solvent. When raw linseed oil, boiled linseed oil, or boiled linseed oil and pigment were used, no solvent was added. Pigment was added at the rate of 1 lb. to 1 gal. of the prepared solution.

Twelve-ounce, grey, United States standard army duck, cut from the same bolt into 15 in. by 28.5 in. sections, was used for all treatments. The treatments were applied with an ordinary 2.5 in. paint brush and to only one side of the canvas. All treatments containing beeswax or paraffin were warmed slightly just before they were applied to the canvas, and all solutions containing suspended matter were kept thoroughly stirred during application.

Four untreated sections and four sections, to which one of the base treatments used in determining the effects of pigments, were used as controls.

After applying the treatments and allowing them to dry, each section was cut crosswise into two pieces, one 16 in. wide and the other 12.5 in. wide. The narrower pieces were kept in the laboratory, while the wider ones were used in the exposure tests. The wider pieces securely attached to 12 in. boards, with their edges on the under side, were exposed to the weather in the open country near Washington, D. C., continuously from May 15 to November 15, 1921. The boards on which the pieces of canvas were laid were laid flat on trestles, so that the material would be exposed to the rays of the sun throughout the day. At the end of six months

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Improved Opening Machinery

(Continued from Page 8)

a complete Buckley opener which embodies a number of new features. This opener is so designed that when used in connection with their No. 3 feeder and breaker lap machine, it insures a continuous feed of full width and produces laps that are exceedingly even in both unit area and total weight. The cylinder in this opener is 41 inches in diameter and the cotton is combed from the feed rolls by the blades of the cylinder, which are transposed so as to cover the whole width of the feed rolls in one revolution of the cylinder. The cotton is thrown by the centrifugal action of the cylinder, revolving at a high surface speed, against the bars and the impurities ejected by a suitable arrangement of the bars and their spacing and angle.

Three-quarters of the periphery of the cylinder is surrounded by bars, this being made possible by the upward stroke of the beater and the entire passage up to the cages is entirely composed of grid bars, an arrangement which gives a very large cleaning area. Suitable dampers are arranged to closely regulate the air currents, insuring a uniform deposit of cotton on the cages of the breaker.

This new opener is fitted with a piano pedal link regulator or evener that accurately governs the cotton passing through the feed rolls of the Buckley opener by automatically controlling the initial source of supply in the hopper of the feeder. This machine is recommended by the makers for all mills using medium and long staple cottons, because of its excellent cleaning qualities and the regularity of the laps it produces—the accuracy of which makes it practical to dispense with the usual intermediate process. The manufacturers can also furnish a double Buckley opener, combined with feeder and breaker lap machines.

Exhaust Opener.

This exhaust opener is usually supplied as a part of a unit comprising the exhaust opener, No. 3 feeder, Buckley section — Breaker lapper, but it may be supplied singly with or without a cage section.

The characteristic features of this exhaust opener consist of two

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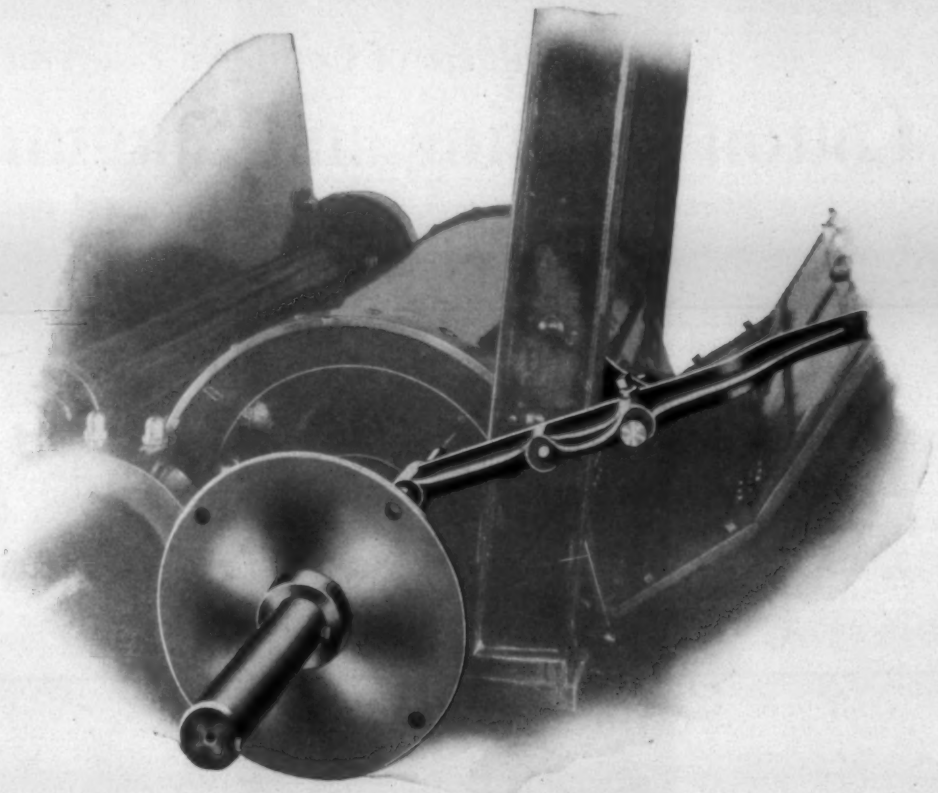


H. & B. Safety Beater Lock.

Death of Judge Walter Clark

JUDGE WALTER CLARK, Chief Justice of North Carolina since 1903 and one of the most famous jurists in America, died at his home in Raleigh on Monday morning, May 19.

Judge Clark was the father of David Clark, editor of the Southern Textile Bulletin. Three of his other sons are also very prominently connected with the textile industry. They are W. A. Graham Clark, textile expert of the Tariff Commission in Washington; John W. Clark, president of Randolph Mills, Franklinville, N. C., and Thorne Clark, president and treasurer of the Anderson Mills, Lincolnton, N. C.

The death of Judge Clark ends one of the most remarkable public careers in the history of North Carolina. At 14 he was a drill master of Confederate troops, at 17 he was a lieutenant colonel in the Confederate Army. In the practice of law during his early manhood he was a citizen of outstanding prominence. For 35 years he sat on the Supreme Court bench, 21 years as Chief Justice, making his influence felt in all departments of the State Government, in the varied walks of daily life and leaving his impress on the laws of the Nation. He was an author of national reputation, an authority on legal and historical subjects.

His Illness Brief.

The Chief Justice had been bearing his share of an exceptionally heavy amount of work falling upon the court during the past months.

He was about Saturday, attending a celebration in the county, although complaining that he was not feeling well. He arose Sunday morning and began to prepare for church, when forced to return to bed.

He rapidly grew worse and around noon lapsed into unconsciousness.

Members of his family were immediately called to his bedside. Growing steadily weaker through the night, he succumbed at 8 o'clock Monday morning. His sons and daughters were with him. He did not regain consciousness.

Entered Army at 14.

Judge Clark would have been 78 years old next August 19. He was born in Halifax county, the son of David and Anna M. Thorne Clark. As a boy he attended school at Horners and Graves Academy and Hillsboro Military Academy. In 1861, at the age of 14, he was one of a group of cadets sent to Raleigh at the request of the Governor to assist in drilling the recruits, then being enlisted in the Confederate Army.

He himself enlisted, in spite of his youth, and distinguished himself in active service and at 17 was promoted to lieutenant colonel, the youngest officer of this rank in the Northern or Southern armies.

After the close of the war he entered the University of North Carolina, where he received his A. B. degree. In 1867 he was given the degree of A. M. and in 1868 became LL. D. from the University. He went to Columbia Law School, Washington, graduated in 1867, and obtained his license to practice in 1868, then a young man of 22.

On Bench Nearly 40 Years.

He was in active law practice until 1885, when he was elected Judge of the Superior Court.

In the campaign of 1884, Judge Clark was brought forward as a candidate for Governor but the entrance of Daniel G. Fowle caused him to withdraw, the two being from the same county. In 1889 Governor Fowle appointed him to the Supreme Court bench, and he was subsequently re-elected upon the expiration of each term, receiving the endorsement of both fusionists and Republicans in the late 90s, although a Democratic nominee.

He was made Chief Justice January 1, 1902.

Judge Clark was an extremely busy man, devoting himself zealously to the duties of his judicial office and finding time besides to engage in study, work and writing.

He annotated the "Code of Civil Procedure," third edition; compiled from 1894 to 1897; he was the author of "Histories of North Carolina Regiments in the Civil War," five volumes, and he has issued all the reprints of North Carolina Supreme Court with annotations. He edited the article on appeal and error in the Cyclopedia of Law and Procedure. He was a contributor to magazines on legal and historical subjects. Perhaps Judge Clark's most conspicuous effort was his translation from the original French of "Constant's Memoirs of Napoleon." in three volumes.

In compiling the histories of Confederate regiments, a labor for which he received no remuneration, Judge Clark wrote more than 10,000 letters with his own hands.

The cause of the Confederacy was always dear to him and on May 16 he was among those leading in memorial exercises at the Confederate plot here and later made a talk to the veterans at the Old Soldiers' Home.

During the war, Judge Clark served on the Federal War Labor Board with former President Taft, Henry Ford and other National leaders, the only Southern man among the seven members. He was also the only Southerner on the Board of Selection for the Hall of Fame. He had served on that board for 15 years or more.

Judge Clark was married January 28, 1874, to Susan W. Graham, daughter of W. A. Graham, twice Governor of North Carolina, United States Senator and Secretary of the Navy. She died in 1909.

The following sons and daughters survive: David Clark and Walter Clark, Jr., of Charlotte; W. A. Graham Clark, Washington; John W. Clark, Franklinville; Thorne Clark, Lincolnton; Mrs. J. E. Erwin, Morganton, and Mrs. John A. MacLean, Greenwood, S. C.

Advantages of Better Mill Equipment

Articles Submitted in Prize Competition On This Subject.

Contest Closes.

The contest for the best articles on "Advantages of Better Equipment" closed this week and no further articles can be submitted in competition for the prizes.

The articles submitted are unusually good and bring out many logical arguments for the use of better mill equipment. They will be published from week to week until all have appeared.

Number Eight

To prove the necessity of better equipment in the cotton mills of Dixie, we must first consider the present outstanding facts concerning the industry of cotton manufacture in the United States.

The industry is rapidly moving towards the cotton fields. This fact is evident, it is proven by the growth of the number of Southern cotton spindles as well as by the growth in the consumption of cotton in the Southern States. But New England will not stand idle and witness her hold on this, her historical and home industry, utterly taken from her without offering some effectual resistance. Recent discussions in the legislative bodies of Massachusetts and other New England States have proven that the Northerners are aware of the apparent deterioration in their industry.

Then what will be their method of defense? The answer is evident. It is only one word. It is competition. It will be as keen as any competition in the business of today. Competition means excelling quality and increased production. They may have to pay more for their labor, they may have to pay more for the transportation of their raw materials, but with the above mentioned characteristics the sale of their products is insured.

The Northern manufacturers will attain the lead in this industrial competition by applying to their mills new and efficient methods and equipment. They will spare no expense in equipping their plants with the latest improvements and thereby produce the highest of quality. They clearly realize that the expense involved is only temporary and on account of their increased quality and hence sales, in the long run there will by no additional expense.

Then the steps that the Southern producers must take in order to rival this competition and eventually gain the supremacy in the trade are clearly defined. They must have better equipment in their mills. They must adopt new and improved methods of manufacture. They must produce textiles of excelling quality, hence gaining the buyer's admiration and thereby fixing a market for their products.

A large number of the Southern mills have been exceedingly slow to realize that yearly science renders accessible to the textile industry hundreds of developments that tend to improve quality as well as efficiency in manufacturing. These improvements apply to every step in the process from the opening of the raw stock through the shipping of the finished product.

To enumerate some of the latest of these would be long and tedious and hardly worth while. We can by referring to the leading textile journals acquaint ourselves with the names of the manufacturers of these improvements as well as with the products themselves.

There there is for our consideration the "Safety First" feature which has received so wide attention in the past few years. Modern machinery is far more safe in the mill as far as the operative is concerned than old machinery. New machines are equipped with the latest methods of guarding and protecting the employee against injury from carelessness or thoughtlessness.

Then the by-word of the Southern manufacturer should be "Efficiency." Efficiency is impossible without efficient equipment. This means new and well kept machinery. It means that in order that the Southern products may rival the Northern ones they must be of superior quality gained by efficiency.

Now, in conclusion, let us all hope that it is not only the dream of the idealist that Dixie will be the home of cotton industry from the sowing of the seed to the sale of the goods, finished and unrivaled by the products of any other section of the world, but that it is a truth that the future will soon prove. New, better and efficient equipment is the certain guide to this achievement.

"GEORGIA CRACKER."

Number Nine

Better equipment means almost a new set of machinery to some mills, while to others it means more machines for some of its departments, so high speed can be avoided.

Writing of better equipment is hard to do without naming your favorite make of machinery.

I am going to write of a mill I know of, that if it was my mill I wouldn't swap it for any other mill I know of. This mill is below the Mason and Dixon line. I have seen quite a few mills in New England and many in the South, but this one has them all beat. It is of the latest design in every respect. A steel structure with saw tooth roof, and affords plenty of light. The floor is of hardwood and plenty of floor space in each department. It is equipped with the latest and best machinery money can buy. All the machines are motor driven except the cards and they have a counter shaft for every fifteen cards. The shaft is equipped with ball bearings all power is transmitted from motor to shaft with chain belt.

The picker and opener equipment is of the very latest, such as bale breakers, vertical openers in tandem with adjustable grids in vertical openers, breakers and finisher pickers. Reeve drive for lifting aprons on bale breaker. Automatic distributors feeding hoppers of F. 5 feeders, F. 5 feeders delivering two a two-beater breaker with 40-inch and 20-inch beater, breakers are

(Continued on Page 26)

Georgia Mill Men Meet

Atlanta, May 14.—George S. Harris, president of the Exposition Cotton Mills of Atlanta, was elected president of the Cotton Manufacturers' Association of Georgia at the twenty-fourth annual meeting of the association held at the East Lake Country Club. The meeting was the most largely attended and one of the most constructive ever held by the association.

Other officers elected at the business session were as follows:

S. Y. Austin, of LaGrange, vice-president; T. J. Callaway, secretary of the Milstead Manufacturing Company, Milstead, treasurer; W. M. McLaurine, Atlanta, secretary, and C. W. Chears, Atlanta, traffic manager. Board of directors: Clifford J. Swift, vice-president of the Swift Spinning Mills, Columbus; L. L. Jones, Ashley Jewell, Chickamauga; Harrison Hightower, secretary, Thomaston Cotton Mills, Thomaston; W. D. Anderson, Allen Little and D. W. Anderson, manager of the Pacolet Mills, New Holland.

Resolutions.

The association adopted a resolution that "it is the judgment of the Cotton Manufacturers' Association of Georgia that the proposed Federal tax law, making tax returns public records, is unfair and unjust; violates the promises upon which the passage of income tax laws were secured; is an unwarranted invasion of the rights of citizens to privacy, and will cause only injury to the taxpayers."

Another resolution adopted declared that it is the fixed judgment of the association that "the proposed Federal tax upon undistributed earnings, disregarding as it does all necessities of the respective corporations existing from time to time, conflicting with a policy which has served to build up the South, is unsound, unfair and unwise, and that such a tax will not only be destructive of the best interests of these United States, but especially and directly will prevent the growth and development of the South." It was further resolved that copies of the resolution be placed in the hands of each Senator and Representative in Congress from Georgia, and that the officers be directed to take diligent and persistent steps to prevent the facts and prevent the enactment of such a tax as is proposed, or any similar tax."

The association voted to appoint a special committee to investigate fully the various schemes now pending in Washington to lease Muscle Shoals and report back as soon as possible to the association.

Resolutions to the memory of the late R. C. Freeman, J. D. Massey, of Columbus; C. H. Williamson, of Macon, and J. D. Hammett, of Anderson, S. C., were adopted.

Golf Tournament.

J. S. Bachman, Sr., and J. C. Bachman, Jr., of Rome, were awarded the gold team trophy. J. L. Robinson and Grady Kennington, of LaGrange, were awarded the runner-up trophy The individual low score was won by Harold Callaway, of LaGrange, and the runner-up was won by R. E. Hightower, of Thomaston. The foursome prize was won by Lee M. Jordan and George S. Harris, of Atlanta, Fred Gordon and E. P. Dismuke, of Columbus. Awards were made by W. L. Roberts, who had charge of the athletic arrangements.

A feature of the banquet was the special table arranged at which eight of the ten living ex-presidents of the association were present, including Governor Walker and A. W. Cozart, of Columbus, the principal speakers of the evening. Frederick B. Gordon, president of the Columbus Manufacturing Company and former president of the association, was toastmaster.

B. S. Walker, of Monroe, and father of the Governor, and who served as the first president of the association from 1900 to 1904, reviewed the early struggles of the association, declaring that the accomplishments and deeds won in those days still live and today furnish the foundation upon which the present generation of textile men are standing.

Jeff Davis, of Toccoa, president from 1908 to 1910, declared that the bottom of the present business depression has been struck and that an upward rebound is near.

W. J. Vereen, vice-president of the Moultrie Cotton Mills, and president of the association in 1917-1918; J. A. Mandeville, of Carrollton, president in 1920-1921; Cason J. Callaway, of LaGrange, president in 1921-1922; Lee M. Jordan, president in 1922-1923, and P. E. Glenn, president in 1923-1924, also were introduced and made brief remarks.

Governor Walker in his address traced the history of this country. "Georgia is coming into her own through a program of better schools, roads and health," he declared. "I have never been a pessimist, and cannot be when I see such great signs of optimism about us."

Everett Mills.

Monroe, N. C.

J. O. Edwards	Supt.
W. W. Hinson	Asst. Supt.
Geo. Dearman	Night Supt.

Weaver's Meeting In Spartanburg

The meeting of the Weavers' Division of the Southern Textile Association, held last Friday at the Chamber of Commerce in Spartanburg, S. C., was one of the most successful sectional meetings the association has ever held. The attendance was large and many interesting problems of the weavers were discussed at the meeting. Almost the entire session was devoted to a discussion of sizing and the relative value of various methods and materials.

The meeting was presided over by W. H. Gibson, Jr., of Union, S. C., chairman of the Weavers' Division.

W. R. Cathcart, technical director of the Corn Products Refining Company, of New York, and Paul Seydel, of the Seydel-Thomas Company, Atlanta, Ga., were two experts who were brought to the meeting to discuss technical and chemical phases of the subjects under consideration.

The meeting consisted of two sessions, one in the morning and one in the afternoon. At 1 o'clock a splendid luncheon was served in the Franklin Hotel, musical entertainment being furnished through the courtesy of C. C. Clark, C. D. Maigatter and the Montgomery-Crawford Company.

David Clark, editor of the Southern Textile Bulletin, attended the Weavers' Meeting, but was prevented from writing his account of the technical discussions by the death of his father.

Among Those Present.

Among those who attended the meeting were:

Arwood, T. W., O-Weaving, Carolina Cotton & Woolen Mills, Draper, N. C.
Baker, J. H., Cloth Room Overseer, Hartwell Mills, Hartwell, Ga.
Batson, Louis P., Sou. Rep., Shambow Shuttle Co., Greenville, S. C.
Bishop, O. E., O-Weaving, Clifton Mfg. Co., Converse, S. C.
Black, Walton, Salesman, Stein, Hall & Co., Inc., Greenville, S. C.
Bolt, A. D., Weaver, Mills Mill, Greenville, S. C.
Britton, W. J.
Buice, J. D., Supt., Chadwick-Hoskins Co., Pineville, N. C.
Burnham, B. K., Supt., Whitney Mfg. Co., Whitney, S. C.
Callat, Claude, Spinner, Courtenay Mfg. Co., Newry, S. C.
Cantrell, E. L., O-Weaving, Alexander Mfg. Co., Forest City, N. C.
Cantrell, F. Y., O-Weaving, Cliffside Mills (Haynes Plant, Avondale, N. C.
Carter, A. B., Gastonia, N. C.
Carter, G. N., Dover, N. H.
Carter, H. T., Salesman, Blockwood Coal & Coke Co., Spartanburg, S. C.
Casey, O. R., O-Weaving, Inman Mills, Inman, S. C.
Castleberry, Asst. Supt., Baldwin Mills, Chester, S. C.
Cathcart, Dr. W. R., Technical Director, Corn Products Refining Co., 17 Pattery Place, New York City.
Chapman, Jas. A., Jr., Vice-Pres. and Supt., Inman Mills, Inman, S. C.
Cilley, John, Jr., Designer, Brookford Mill Co., Hickory, N. C.
Clark, C. C., Salesman, Spartanburg, S. C.
Clark, David, Editor, Southern Textile Bulletin, Charlotte, N. C.
Cobb, W. W., Supt., Norris Cotton Mills Co., Cateechee, S. C.
Copeland, J. R., O-Weaving, Judson Mill, Greenville, S. C.
Cranford, H. C., O-Weaving, Jackson Mill No. 2, Wellford, S. C.
Cromer, J. L., Andrews Loom Reed & Harness Works, Tryon, N. C.
Crow, D. J., Weaver, Easley Mill No. 3, Liberty, S. C.
Curry, L. T., General Overseer, Lancaster Cotton Mills, Lancaster, S. C.
Dean, Geo. A., Sou. Mgr., A. E. Staley Mfg. Co., Spartanburg, S. C.
DeHart, F. D., O-Weaving, Rhode Island Mills, Spray, N. C.
Digby, T. J., Supt., Oakland Cotton Mills, Newberry, S. C.
Digby, T. J., Jr., Salesman, Baltimore Belting Co., Greer, S. C.
Ellis, T. L., O-Weaving, Carolina Cotton & Woolen Mills, Draper, N. C.
Escott, G. S., Associate Mgr., American Wool & Cotton Reporter, Boston, Mass.
Failor, Walter M., Charlotte, N. C.
File, H., Chemist, A. E. Staley Mfg. Co., Decatur, Ill.
Franks, E. A., Supt., Drayton Mills, Spartanburg, S. C.
Frye, G. V., Night Supt., Florence Mills, Forest City, N. C.
Gibson, L. B., Supt., Fairmont, S. C.
Gibson, W. H., Jr., Supt., Union-Buffalo Mills Co., Union, S. C.
Greer, W. W., Salesman, Seydel Chemical Co., 733 Augusta St., Greenville, S. C.
Gregory, W. L., O-Weaving, D. E. Converse Co., Glendale, S. C.
Grimes, M. A., Anderson, S. C.
Hall, John P., Weaver, Monarch Mills, Lockhart, S. C.
Harris, Carl R., Asst. Supt., Inman Mills, Inman, S. C.
Harris, Jack, Salesman, Holyoke Belting Co., Spartanburg, S. C.
Haskins, L. L., Distributor, E. F. Houghton & Co., Greenville, S. C.
Hawkins, D. E., Second Hand, Haynes Mill, Avondale, N. C.
Hunt, A. F., Supt., Marion Mfg. Co., Marion, N. C.
Hyder, J. J., O-Weaving, Lanett Mills, Lanett, Ala.
Jackson, D. G., O-Weaving, Limestone Mill, Gaffney, S. C.
Jackson, F. C. N., Salesman, Providence Drysalters Co., Providence, R. I.
James, J. M., O-Weaving, Chadwick-Hoskins Co., Pineville, N. C.
Kay, P. A., Weaver, Easley Mill No. 2, Liberty, S. C.
Lackey, L. S., Supt., Easley Mill No. 2, Liberty, S. C.
Laughlin, Jas. B., Cloth Room Overseer, Beaumont Mfg. Co., Spartanburg, S. C.
Laurence, S. B., O-Weaving, Gluck Mills, Anderson, S. C.
League, D. W., O-Weaving, F. W. Poe Mfg. Co., Greenville, S. C.
LeClair, E., Salesman, Atlanta Harness & Reed Mfg. Co., Atlanta, Ga.
Leister, W. P., Supt., Victor-Monaghan Co., Walhalla, S. C.

(Continued on Page 26)

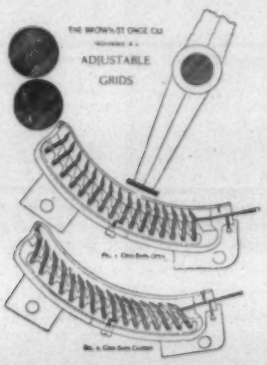
Importance of Grid Bars in Cleaning Cotton

American mills for the last few years have begun to realize more fully the importance of opening and cleaning cotton and the manufacturers of opening and cleaning machinery have devoted a great deal of time and effort to improve the equipment for this purpose.

To increase the efficiency of the machines that open and clean cotton, the Brown-St.-Onge Co., Providence R. I., have specialized in the manufacture of grid bars and have been very successful in making and marketing the Brown St.-Onge grid bar. They are in use in a large number of mills and have proven very efficient in cleaning cotton.

As cotton comes to the mill, it is filled with dirt and motes. In order to clean cotton and good running work, it is absolutely necessary to get rid of the dirt and motes.

Among the most vital parts of all machines that are used for handling the cotton as it comes from the bale are the grid bars. All these machines have grid bars, and while they are a very inconspicous part of the



Brown-St. Onge Grid Bar.

equipment, if they do not operate efficiently and constantly, there will be trouble with the cotton in each succeeding process through the mill. If trouble from cotton caused by imperfect action of the grids does not develop at the carding process, it will show up in other departments and in the long run it will cost more than if the grid bars had thoroughly taken care of it.

The grid bars, do all that they are intended to do, should be constructed so that they will be in proper position in relation to the beater, so that the stricking blow will separate the motes from the good cotton and shake out the dirt.

The Brown St.-Onge Company, in developing their grid bars, have construsted them on the principle that this striking blow must never be delivered in such a manner as to break the motes up. If the blow does break up the motes, it will result very serious defect that seriously evry serious defect that seriously hurts the sale of the cloth.

With grid bars made so as to allow this striking blow to be delivered at just the right angle together with the "Adjustable" feature of this grid bar in the work of the grid bars makes for great efficiency.

As we all know, the larger the opening the more dirt will fall out and pass thru. Many grid bars may have the first requisite; good striking position, but the second is harder to find. In the Brown St.-Onge grid bars there is combined both of these requisites and it was only through years of experimenting and actual operation that they were combined in one article.

The wide space between each bar, which is adjustable to each particular mill, will allow all the dirt possible to be taken out. This in turn means less fly and sweeping in your mill.

The picker loom is the foundation of good work in all the mills, it being the start from which the finished goods derive their appearance and quality. Anything that tends to improve this department will improve the whole plant.

With the condition of the cotton market and the actual shortage in view, it becomes the duty of us all to see that what we have shall be utilized to its fullest capacity and that waste in all ways be done away with, as far as possible and yet maintaining quality.

The Texas Dollar

According to official statistics furnished by the United States Department of Agriculture, here's how the money added annually to the world's wealth by the cotton crop of Southwest Texas is "split:" To the farmer, 18.9 cents out of a dollar; to the railroads for transportation, 1.1 cents; the farmer pays for the ginning out of his 18.9 cents and the railroads pay compressing charges. The factors, commission men, jobbers and retailers get the 79.95 cents that remain. North Carolina, a few years ago the poorest State in the Union, is now one of the wealthiest. The reason? Building of hundreds of cotton mills. Asininity sounds bad and may look worse. But it's the only term that applies squarely to a situation that, for a century, has permitted New England to use a product of the South for New England's benefit and at the South's loss. Southwest Texas should be more concerned than any other part of the greatest cotton growing section of the earth.—San Antonio Express.

Commerce Department to Urge Export Combination.

A strong argument in favor of the organization of a combination for export purposes under the Webb-Pomerene export law will be presented to the Associated Knit Underwear Manufacturers of America in convention at the Hotel Traymore, Atlantic City, by representatives of the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce, according to an announcement made by Roy A. Cheney, executive secretary of the knitters' organization.

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Death of Father of David Clark

DAVID CLARK was called to Raleigh, N. C., Sunday afternoon by the sudden illness of his father, Walter Clark, Chief Justice of the Supreme Court of North Carolina.

As Judge Clark passed away Monday morning and the funeral followed on Tuesday, David Clark did not return to Charlotte before the publication of this issue.

We offer this explanation of the fact that we are not carrying full reports of the meetings of the Cotton Manufacturers' Association of Georgia and the Weavers' Division of the Southern Textile Association, both of which were attended by Mr. Clark last week. His accounts of the meetings had not been written prior to his being called to Raleigh.

Profits Will Increase By Efficiently Opening Cotton

THE Better Equipment Campaign this week begins the technical discussion of the advantages of using modern machinery in the various process of cotton manufacture. The subject featured this week, in both the special advertising and reading articles, is improved opening equipment. It is a subject of extreme importance to all Southern mills and deserves their most careful consideration.

English mills have for many years paid more attention to the opening of cotton than American mills and because of this have been able to produce yarns and goods of better quality than American mills produced from cotton of the same grade.

Every practical cotton manufacturer knows that no mill is better than its opening equipment. The successful handling of the stock in every department of the mill depends upon the treatment it receives in the preparatory processes. The quality of the production hinges upon the question of whether or not the cotton was thoroughly opened and cleaned before going to the cards. The advantages of light carding, now so well recognized, are posible only in the mill that uses the most modern and approved types of opening equipment.

Many Southern mills have for years struggled along with inadequate opening facilities. Many of them are still trying to force the cards to clean the cotton. This mistake not only makes them use a higher grade of cotton than should be necessary, but results in excessive waste, poor running work and an inferior quality of output. The function of the cards is entirely separate from that of the opening equipment and to try to make them do this work is not only poor manufacturing practice, but false economy as well.

The Southern Textile Association, through its Carders' Division, has made a close study of opening and cleaning and the results as reported at the various meetings of the Carders has proved a very strong argument in favor of improved opening equipment.

The machinery manufacturers, in recent years, have developed their opening machinery to a very high degree of efficiency. The results these machines produce are incomparably better than the work of the earlier and cruder types of equipment.

Although we are now in the midst of a very severe period of depression, the experience of previous years teaches us that such times are always followed by periods of marked activity. Market conditions, while extremely poor, are shaping themselves in a manner that indicates a very heavy demand for yarns and goods later on.

In the face of the present cotton shortage, the matter of properly opening and cleaning cotton becomes an economic as well as a manufacturing problem. Good cotton is hard to get now and will be exceedingly scarce when normal operations are resumed. Prices may logically expected to be much higher. The mill that is properly equipped to make the best and most economical use of the cotton it consumes will enjoy a decided advantage when the buying movement develops.

While New England mills debated the advisability of installing automatic looms, Southern mills adopted them and now New England is paying for the folly of trying to do business with antiquated machinery.

The Southern mill that neglects to modernize its opening equipment is throwing away its chances to meet the competition of the future.

Sees Need of Higher Tariff

IN a letter to the Southern Textile Bulletin, J. C. F. Clark, president of the Sutherland Manufacturing Company, Augusta, Ga., stresses the need of a higher tariff on cotton goods and brings out some very interesting points relative to the present textile situation. On account of the general interest in this phase of the situation, we are reproducing his letter herewith:

"In the Southern Textile Bulletin of the 8th we note with interest the two articles on the editorial page entitled 'For Profits—Which Way Would You Plow Today,' and 'English Mill Got the Order.'

"In the first article we note you state: 'The curtailment of the mills in the United States is now upon a basis of 6,000,000 pounds per month as compared with the production last year. Such a shrinkage in the output of cotton goods is rapidly creating a vacuum and when the buyers finally enter the market they will find a shortage.'

"Enclosed we are sending you a page from the New York Commercial, under date of the 2nd, from which you will note statement as follows: 'British Cloth Dumping Forces U. S. Mills to Close,' 'New England Mill Men Seek Flexible Tariff Action to Stop General Curtailment,' 'How British Cloth Dumping Menaces American Industry,' 'Imports Averaging 20,000,000 Yards a Month Compared with 4,000,000 in 1919.'

"When we fully realize that 20,000,000 yards of goods, made by cheap foreign labor, are being imported monthly it is hard to believe that there will come a demand for our goods even with the curtailed production of 6,000,000 pounds a month, but we sincerely trust that it will come, for it is badly needed, as conditions are indeed deplorable in the mill business. It looks to us like the importation of cotton goods is going to become even greater unless something is done to steam the tide. We understand that 5,000,000 bales of cotton have already, up to this time, been exported this year, which is 200,000 bales more than the total exports for last year, and if Europe continues to recover the exports will undoubtedly continue to grow and this cotton will be manufactured into cloth, by the cheap foreign labor, and accordingly that much more cloth will enter this country than is now coming in.

"We understand that the tariff was reduced during President Wilson's administration. probably when European production was low and we were not fearful of imports, and that the tariff has never been restored to the old basis, in spite of the fact that European conditions are improving and their industries becoming a menace to ours.

"We are glad to note that the National Association of Cotton Manufacturers have taken cognizance of the matter and that the Republicans seem to be trying to do something towards raising the tariff and regret that the Democrats seem to be opposing same.

"Now that the South has become a great textile country and our industry threatened, it seems to us that we should take steps to rectify the present condition of affairs and not be satisfied to say that it is due to a buyer's strike or something else and let it go at that.

"We believe that the tariff should be a local and not a political issue but, if it cannot be made so and if we cannot have a tariff plank in our platform, then we had better change our politics, as a matter of self-protection.

"In addition to the enormous quantities of goods coming into this country, we received in 1922 850,000,000 yards of burlap, last year 1,000,000,000 yards—last month 61,800,000 yards. A large part of this is a competitor of our cotton goods. Our own mill, for instance, was equipped, as were many others, for coarse numbers and we have for years made heavy goods, but for the past few years the buyers of some of our coarse fabrics have changed over to the use of burlap. This has caused us to go on to finer goods, which puts us in competition with those mills that were already on these finer goods. Our mill alone does not cut much figure, but the total of the other mills that have changed over, as we have done, amounts to something."

American Cotton Manufacturers' Convention

PLANS are virtually complete for the twenty-eighth annual convention of the American Cotton Manufacturers' Association, to be held at Atlantic City May 27 and 28. Headquarters for the meeting will be at Hotel Traymore. Hotel reservations indicate that the attendance will be unusually large.

A program of unusual interest has been prepared for the meeting. Among the speakers will be Norman H. Johnson, secretary of the Southern Wholesale Dry Goods Association; Curtis Dight Wilbur, Secretary of the Navy; Dr. D. W. Daniel, of Clemson College, and Henry Mace Payne, consulting engineer of the American Mining Congress.

A full report of the meeting will be carried in these columns next week.

Personal News

W. T. Garner has been appointed overseer weaving at the Peerless Mills, Thomaston, Ga.

B. C. Roberts has accepted a position with the Aldora Mills, Barnesville, Ga.

Wm. H. Snow has been appointed overseer of spinning at the Washington Mills, Tenille, Ga.

Andrew Greer has been appointed overseer carding at the Georgia-Kincaid Mill No. 5, Griffin, Ga.

John Rawls has been promoted to second hand in No. 1 weaving at the Griffin Manufacturing Company, Griffin, Ga.

V. J. Deas has resigned as overseer weaving at the Griffin Manufacturing Company, Griffin, Ga., and accepted a similar position with the Canton Cotton Mills, Canton, Ga.

E. W. Mayfield has been promoted from second hand in No. 1 weaving to overseer weaving at the Griffin Manufacturing Company, Griffin, Ga.

C. W. Wilbanks has resigned as night overseer spinning at the Chadwick-Hoskins Mill No. 5, Pineville, N. C., and returned to his home in Whitmire, S. C.

William Hinchcliffe, who has been superintendent of the mills of the Dallas Manufacturing Company, of Huntsville, Ala.. for the past 25 years, has resigned, and will retire to his Florida home.

J. A. Thompson, formerly overseer of spinning at the Fulton Bag and Cotton Mills, but more recently spinner at the Bradley Manufacturing Company, Columbus, Ga., has been appointed overseer spinning spooling and warping at the Canton Cotton Mills No. 1, Canton, Ga.

Barney T. Hudson, who has for the past 18 years devoted his entire time to the textile industry and who was formerly night overseer in the spinning department at the Perkins Hosiery Mills at Columbus, Ga., has accepted a position with the Wright Electric Company, of Birmingham, Ala., as chief electrician.

A. E. Treganza Now With Chicago Fuse Manufacturing Co.

A. E. Treganze, formerly sales manager of Economy Fuse Manufacturing Company, Chicago, has recently gone with the Chicago Fuse Manufacturing Company, also of Chicago, as assistant to the president in charge of commercial relations.

Address Wanted.

The address of G. M. Loggins, last heard of at Cramerton, N. C., is wanted by C. C. Stacy, of Gaffney, S. C., who will appreciate it if anyone can give him Mr. Loggins' address.

Obituary

W. E. Harvell.

W. E. Harvell, superintendent of the Southern repair shops of the Saco-Lowell Shops, of Charlotte, died Tuesday night at the home of his sister in Charlotte after an illness of only a few days. Heart trouble was the cause of his death.

Mr. Harvell had a long and honorable record of service with the Saco-Lowell Shops, having been in their employ for 22 years. He had a very wide acquaintance with mill men and was considered an authority upon textile machinery. He had for years been prominent in Charlotte fraternal circles and was buried with Masonic honors.

Mr. Harvell is survived by one son, W. E. Harvell, Jr., one brother and one sister.

A. C. Canterberry.

A. C. Canterberry, overseer spinning at the Eva Jane Mills, Sylacauga, Ala., died last Sunday afternoon at his home, having been stricken with paralysis.

Mr. Canterberry had been overseer spinning at the Eva Jane Mills for about three years, going there from Meridian, Miss., where he was superintendent of the Alden Knitting Mills.

He is survived by his widow, one daughter and four sons, all of whom live in Sylacauga except one.

Mr. Canterberry had for years taken an active part in civic activities and was one of the best known citizens of his town. He was especially interested in boys' work and helped organize the Boy Scouts in his section.

Spindle Hours Show Drop

Washington, May 21.—Cotton spinning during April was less active than during March and showed a heavy decline from April a year ago, the Census Bureau's monthly spinning activity report issued today shows. Active spindle hours were two billion below those of a year ago.

Active spindle hours for April numbered 6,769,711,331, or an average of 179 per spindle in place, compared with 7,072,965,369, or an average of 187 for March this year, and 8,787,443,897, or an average of 236, for April, last year.

Spinning spindles in place April 30 numbered 37,745,967, of which 31,871,665 were operated at some time during the month, compared with 37,761,970 and 32,392,171 in March, this year, and 37,287,265 and 35,515,791 in April, last year.

The average number of spindles operated during April was 30,177,468, or at 79.9 per cent capacity on a single shift basis, compared with 31,125,530, or at 82.4 per cent capacity, in March, this year, and 40,759,979, or at 109.3 per cent capacity, in April, last year.

MILL NEWS ITEMS OF INTEREST

Spindale, N. C.—The Elmore Company, which is building an addition to its yarn mercerizing and finishing plant, has let contract to the Bahnson Company, Winston-Salem, N. C., for humidifying equipment.

Searcy, Ark.—Business men of this place are corresponding with Eastern mill men with a view of erecting a cotton mill here. The development of a hydro-electric plant on the Little Red River, near here, makes power available.

Anniston, Ala.—It is reported that that Adelaide Cotton Mills will make a number of improvements, including an extension to the building, the erection of a number of new homes and the development of parks and playground.

Nashville, Tenn.—The Dupont Fibersilk Company, Buffalo, N. Y., has let contract to Ingall Iron Works, Birmingham, Ala., for structural steel for building the plant which they will erect here to make fibersilk.

Greenville, S. C.—The plant of the Southern Bleachery at Taylors, near here, is expected to begin operations this week. It will have an initial capacity of 1,250,000 yards per week and it is planned to practically double the output later.

Monroe, N. C.—The Bearskin Mills, which were sold a second time by receivers, are expected to be taken over this week by the Monroe Mills, which was recently organized for the purpose. It is understood that the Johnston interests of Charlotte are the controlling stockholders in the company.

Tuscaloosa, Ala. — To encourage new mills to locate here, the county authorities of Tuscaloosa county have exempted new textile companies from county taxation for a period of five years. The Chamber of Commerce of this place is making efforts to have two new plants built here.

Gastonia, N. C.—The building of the Gastonia Cotton Manufacturing Company was sold at auction for $27,000 to R. B. Babington, W. C. Adams, Hugh Pinnix, R. M. Johnston and J. Spencer Love. It is understood the new owners will cut the building into several sections and lease it for small manufacturing purposes.

The machinery of the Gastonia Cotton Manufacturing Company was moved to the Burlington Cotton Mills, Burlington, N. C., some months ago.

The Gastonia Cotton Manufacturing Company was the oldest mill here, having been built in 1889 by George A. Gray and R. C. G. Love.

Rockingham, N. C.—The Roberdel Manufacturing Company has let contract to T. C. Thompson Bros., Charlotte, for erecting a conditioning room at their No. 2 mill for conditioning filling. The company has awarded contract to the Bahnson Company, Winston-Salem, for humidifying this conditioning room.

Lexington, N. C.—Erlanger Cotton Mills has let contract to E. H. Clement Company, Charlotte, N. C., for construction of swimming pool 45x90 reinforced concrete, color, green. Bath houses, pergola, wading pool, etc., to be constructed later. Cost $10,000. E. S. Draper, landscape architect and engineer, 11 East Fifth street, Charlotte, in charge of development, preparation of plans, etc.

Houston, Tex.—The new Houston Cotton Mills, to be built here, as recently noted, will manufacture cotton blankets. The first unit will consist of a main mill building, one story and basement, standard mill construction 138x338 feet; two-compartment warehouse with opener room 100x125 feet and boiler room. Plans, which are by J. E. Sirrine & Co., Greenville, S. C., are now in hands of contractors and contract is expected to be let May 23.

Swannanoa, N. C.—The Beacon Manufacturing Company, of New Bedford, Mass., which will erect a blanket manufacturing plant here, as previously noted, has let contract to Morton C. Tuttle, of Boston, for construction of the building. Details of the building have not yet been announced. It will contain 200,000 square feet of floor space and cost about $1,000,000 with equipment. The mill company has a site of 175 acres and the landscape work and village layout will be handled by E. S. Draper, landscape architect, of Charlotte.

Lyman, S. C.—Machinery is being installed, set in order, boilers are being fired up and tested, the gigantic filtering plant is being tried out, and all officials with possibly two exceptions have arrived at the plant, goods are being shipped in from other mills of the Pacific group for the bleachery, and according to General Superintendent Leonard S. Little, of the Lyman department of the Pacific Mills.

Things are shaping up for the bleachery and mill to begin early operations. There are 25 families in employees' homes in the village, and persons are coming daily for employment.

Work on the handsome community building, the school, the church and the residence of General Superintendent Little and other officials is being steadily pushed. Walter Cook, chief architect of Lockwood, Greene & Co., with headquarters in Boston, Mass., is inspecting

the entire appearance of things in and about the village. Mr. Cook designed a number of the important buildings now under process of construction, as well as the employees' homes. Ira Kaufman, resident engineer of Lockwood, Greene & Co., who has been at Lyman from the start, has kept things going all along up to the standard.

Mr. Little announced that Parklap, Inc., the contractors, are clearing up their entire work, and the Minter Homes Company, contractors for building the employees' homes, have practically completed the erection of the 320 employees' dwellings.

The entire development at Lyman represents an expenditure of from four to five million dollars.

Spartanburg Mill Dividends

Spartanburg, S. C.—A total of $342,274 in dividends was voted by boards of directors of six cotton mills, located in Spartanburg county and other sections of the South, at meetings held here. The dividends represent the returns from total investments of $9,090,600, according to capitalization figures furnished by stock dealers.

The biggest dividend was declared by Pacolet Mills, when a 5 per cent semi-annual dividend was voted on common stock and 3 per cent on preferred stock. The mill is capitalized at $2,000,000 common stock and $2,000,000 preferred stock. The dividend will total approximately $160,000.

Next in order was the Spartan Mill, with 4 per cent declared on $2,000,000 common stock, the dividend amounting to $80,000. There are no preferred stockholders.

Laurens Mill, at Laurens, voted 4 per cent dividend on capitalization of $1,050,000 common stock, or $42,000. All preferred stock has been retired.

Whitney Mills, with $600,000 common stock, will pay $18,000 at 3 per cent dividend. No preferred stock is held.

Gainesville Mill, at Gainesville, Ga., netted $30,124, when directors met there last Thursday and voted 4 per cent dividend on common stock and 3 per cent on preferred. The mill has a capitalization of $490,000 common and $350,000 preferred.

Drayton Mills, with a capitalization of $250,000 common stock and $350,000 preferred, declared 3½ per cent dividend on the latter, netting $12,250.

Referee in Mathieson Litigation Reports for Arnold, Hoffman

Providence, R. I.,—A preliminary decision in the litigation between Mathieson Alkali Works and Arnold, Hoffman & Company of this City has been made by James H. Higgins as master who has filed his report and findings sustaining certain claims of Arnold, Hoffman & Company. The question decided by the master before whom the case has been pending for nearly three years, was whether or not the Mathieson Alkali Works in consequence of direct or imputed knowledge acquiesced in any of the transactions of Arnold, Hoffman & Company, of which the Mathieson Alkali Works complains. The master found that knowledge of Arnold, Hoffman transactions by officials at the Mathieson plants and knowledge of the contents of plant records are both to be imputed to the Mathieson board of directors and that in consequence Mathieson cannot now recover against Arnold, Hoffman & Company for some of the transactions. There have been no findings as to the sufficiency of the Mathieson's defence to the suit brought by Arnold, Hoffman & Company's right to recover.

The master's report was presented to Judge Brown of the United States District Court at Providence by whom the case will now be taken up, and in due course the claims of both sides will be presented o the court. Arnold, Hoffman & Company, or its predecessors, for approximately 40 years were selling agents for the Mathieson Corporation.

In 1919 the Mathieson corporation severed relations, claiming that the performance of Arnold, Hoffman & Company, as agents in the past, justified it in so acting. The Mathieson Corporation then moved to New York.

In 1920, Arnold, Hoffman & Company brought suits against the Mathieson Works in the Superior Court in Providence for damages for alleged breaches of contract, and also on specific contracts by which the Mathieson Works had agreed to sell Arnold, Hoffman & Company, for its own account certain large quantities of its products.

Later the Mathieson Works brought suits in New York State against Arnold, Hoffman & Company, and Mr. Arnold individually, and suits in equity in the Federal District of Rhode Island against Arnold, Hoffman & Company, and also against Mr. Gadding individually.

Barber Mfg. Co. Will Move to Charlotte.

The Barber Mfg. Co., of Lowell, Mass., well known manufacturers of spinning tapes and similar products, have leased an entire floor of the new addition to the Wade Loft Building in Charlotte and will move their plant to this city.

This company has for many years enjoyed a large business with Southern mills and their decision to move South will be received with unusual interest.

Number Nine.

(Continued from Page 18)

equipped with evener motions. Finisher and breaker have ball bearings for their high speed shafts. Cards are equipped with a good stripper and are driven by shaft for each fifteen cards. This shaft is equipped with ball bearings and is motor driven with chain transmission. This mill has enough cards to run doffer seven to eight turns per minute and card a sliver 52 grs. per yard and then not have to rush their cards for production.

Drawing is driven by motor to each twenty deliveries with low front roll speed, and revolving clearers and full can and target stop motion with hardened front roll.

Slubbers and roving are of the latest and each machine is driven by an individual motor, so is the spinning and twisting, weaving and all the rest of machinery individual motor driven, all fluted front rolls of drawing, spinning and roving machinery is hardened and none of this machinery exceeded the speed limit given by the machine manufacturer.

The breaking strength of yarn at this mill is far above the average or standard. The help have a good place to change clothes with steel lockers to lock their clothes up in and a good place to wash. They have good drinking water furnished through sanitary drinking founts on spigots. The owner of this mill is one of the most wonderful men I ever met in more ways than one. His agent and superintendent are men of ability or they couldn't have put up such an ideal plant.

Spinning has filling wind on warp frames and tape drive is used on spindles.

TEN O. C.

Textile Bulletin

An important factor in the development of the textile industry in this section and throughout the South, is the editor, the firm name being the Clark Publishing Company.

The company also publishes Clark's Directory of Southern Textile Mills.

Publication of the Textile Buletin was begun in 1911. The paper soon assumed a commanding place in the of textile publications and it is now one of four big textile publications in the country. It does not seek circulation outside of the south, but in the South it has the largest circulation of any newspaper in its fieid.

The paper has built up on the idea of service to the textile industry. It has worked with the manufacturers on legislative and business matters and has striven to place every phase of the industry on a sound basis. The paper is published weekly at $2 a year.

Mr. Clark takes an active part in everything relating to the textile industry and is at the present in charge of the exhibit in connection with the meeting of the Southern Wholesale Dry Goods Associaition here—From The Textile Number of Charlotte Chamber Of Commerce Bulletin.

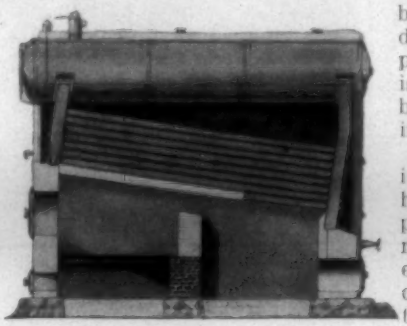
Information Wanted

As to whereabouts of Mrs. Lydia Hill. Left home April 8, leaving husband and 2 small children. Description: slender, light hair, blue eyes, gold upper front tooth, age 28 years, height about 5 ft. Last seen with tall man about 21 years old at Kings Mountain. Information will be appreciated. F. Robertson Hill, Mt. Holly, N. C. P. O. Box 297.

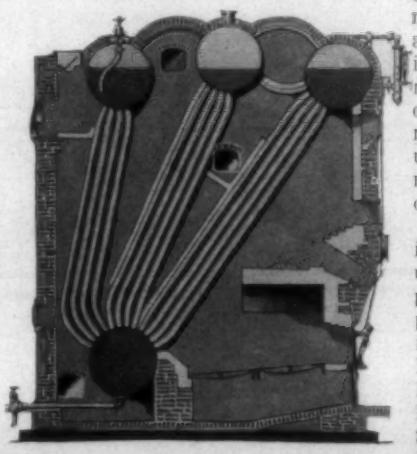
One-Piece Furnace Lining

In these days of keen competition and small profits, manufacturers are impressed with the necessity of cutting costs wherever possible and in operating every department efficiently and economically.

To help put the boiler and furnace



equipment on an economical and efficient basis, the Cornish Company, of Hartsville, S. C., is manufacturing a "One-Piece' Furnace Lining" that is designed primarily



to save the cost of repairs on the fire brick furnace linings and to add to the efficient and constant operation of the boiler plant.

The One-Piece Furnace Lining is in plastic form, used on the inside of furnace in place of fire brick. As its name implies, it is in one solid piece when it hardens in the furnace. It expands uniformly, thus forming a bond that holds in spite of the sudden and frequent variations in temperature to which it is subjected. It is adapted to use in all types of boilers as it can be mouled easily into any shape.

This furnace lining, by reason of its solid construction without joints, has proven very effective in stopping leaks in fire walls. In this manner the manufacturers say, it effects a substantial saving on coal costs, an item of great importance to every user of boiler equipment.

Installations of One-Piece Furnace Linings are made by The Cornish Company at no additional cost to the purchaser.

The Cornish Company claims for its product that it will put an end to costly repairs to fire brick furnace linings, save coal by preventing air flowing from the outside to the inside of the furnace, and materially add to the general efficiency of the furnace equipment. Statements from a number of large manufacturers who are using this furnace lining tend to substantiate the claims of the manufacturers.

In addition to a large number of installations in various other manufacturing plants, the Cornish Company has recently installed its one-piece furnace lining in the following cotton mills: Woodside Cotton Mills, Greenpille; Piedmont Cotton Mills, Piedmont, S. C.; Enoree Mills, Enoree, S. C.; Irene Mills, Gaffney, S. C.; Cabarrus Mills, and Cannon Mills, Kannapolis, N. C., and the Holt-Williamson Manufacturing Co., Fayetteville, N. C.

Weavers' Meeting in Spartanburg

(Continued from Page 20)

Lockman, C. H., O-Weaving, Union-Buffalo Mills, Union, S. C.
Lockman, F. D., Supt., Monarch Mills, Lockhart, S. C.
McCombs, J. V., Supt., Union-Buffalo Mills Co., Buffalo, S. C.
Maigatter, C. D., Salesman, Hart Products Corp., Charlotte, N. C.
Miller, Hugh, Spartanburg, S. C.
Moore, P. B., Supt., Conestee Mills, Conestee, S. C.
Moore, W. Y., O-Weaving, Union-Buffalo Mills Co., Buffalo, S. C.
Morgan, G. C., Overseer, Seneca Co., Seneca, S. C.
Neighbors, H. E., Asst. Weaver, Florence Mills, Forest City, N. C.
Ochs, C. H., Jno. P. Marston Co., Boston, Mass.
Ostein, R. T., O-Weaving No. 2, F. W. Poe Mfg. Co., Greenville, S. C.
Padgett, C. M., Supt., Seneca Co., Seneca, S. C.
Padgett, P. A., O-Weaving, Eastside Mfg. Co., Shelby, N. C.
Philip, Robert W., Associate Editor, Cotton, Atlanta, Ga.
Phillips, J. L., Southern Textile Bulletin, Charlotte, N. C.
Poole, D. F., O-Weaving, Dunean Mills, Greenville, S. C.
Poole, J. K., O-Weaving, Whitney Mfg. Co., Whitney, S. C.
Poole, R. W., Service Man, Draper Corp., Atlanta, Ga.
Pratt, W. B., Sou. Agent, Joseph Sykes Bros., Charlotte, N. C.
Pruitt, G. P., Cloth Room, Dunean Mills, Greenville, S. C.
Rakestraw, S. P., Sou. Agent, Seydel Chemical Co., LaGrange, Ga.
Ramsey, T. C., Cloth Room Overseer, Eastside Mfg. Co., Shelby, N. C.
Rice, Elkin D., Salesman, Montgomery & Crawford, Spartanburg, S. C.
Riggins, W. G., O-Weaving, Conestee Mills, Conestee, S. C.
Rogers, H. O., Supt., The Hartwell Mills, Hartwell, Ga.
Rogers, W. J., O-Spinning Room, Marion Mills, Marion, N. C.
Seydel, Paul, Pres., Seydel-Thomas Co., Atlanta, Ga.
Shambow, Jno. C., Pres., Shambow Shuttle Co., Greenville, S. C.
Shull, W. G., Salesman, Greenville, S. C.

Sibley, W. A. L., Apprentice, Whitney Mfg. Co., Whitney, S. C.
Silver, G. A., Dyer, Haynes Mill, Avondale, N. C.
Simpson, R. C., O-Weaving, Brookford Mill, Hickory, N. C.
Sloan, S. M., Sou. Rep., American Supply Co., Greenville, S. C.
Smart, M. G., Night Weaver, Florence Mills, Forest City, N. C.
Smith, H. G., O-Weaving, Beaumont Mfg. Co., Spartanburg, S. C.
Smith, Howard L., Salesman, Draper Corp., Atlanta, Ga.
Smith, N. T., Second Hand Weaving, Woodruff Cotton Mill, Woodruff, S. C.
Smith, P. A., Supt., Cotton. Dept., Pacific Mills, Wellford, S. C.
Snoddy, John M., O-Carding, Marion Mfg. Co., Marion, N. C.
Spake, J. O., Supt., Easley Cotton Mill No. 3, Liberty, S. C.
Steadman, A. D., Supt., Jackson Mill, Wellford, S. C.
Summey, S. P., Supt., Alexander Mfg. Co., Forest City, N. C.
Thackston, H. A., O-Weaving, East Side Mill. Shelby, N. C.
Thomas, H. W., Weaver, Oakland Cotton Mills, Newberry, S. C.
Thomas, S. C., Seydel-Thomas Co., Spartanburg, S. C.
Thomason, F. L., Rep., N. Y. & N. J. Lubricant Co., Greenville, S. C.
Thomason, Lewis W., N. Y. & N. J. Lubricant Co., Charlotte, N. C.
Thompson, J. T., Spinner, Oakland Cotton Mills, Newberry, S. C.
Thompson, W. H., Cloth Room, Courtenay Mfg. Co., Newry, S. C.
Tidwell, J. S., O-Weaving, Springstein Mills, Chester, S. C.
Toms, J. P., Supt., Eastside Mfg. Co., Shelby, N. C.
Van Sandt, Harold, Salesman, Corn Products Sales Co., Greenville, S. C.
Veal, W. W., O-Weaving, Arcadia Mills, Arcadia, S. C.
Waits, E. G., Carder, Oakland Cotton Mills, Newberry, S. C.
Warren, C. H., Draper Corp., Atlanta, Ga.
West, Jack, Salesman, Carolina Supply Co., Greenville, S. C.
White, H. B., O-Weaving, D. E. Converse Co., Glendale, S. C.
White, Jno. R., Mgr., Corn Products Sales Co., Greenville, S. C.
Wilkins, J. R., O-Weaving, Pacolet Mfg. Co. No. 5, Trough, S. C.
Williams, A. R., O-Weaving, Hartwell Mills, Hartwell, S. C.
Williams, C. L., Service Man, Draper Corp., Atlanta, Ga.
Williams, D. W., Overseer Weaving, Pacolet Mill No. 3, Trough, S. C.
Witherspoon, George, Prop., Spartan Sizing Comp. Co., Spartanburg, S. C.
Wofford, J. A., O-Weaving, Baldwin Mills, Chester, S. C.
Wofford, J. L., Asst. Supt. and O-Weaver, Lydia Mill, Clinton, S. C.
Wood, H. H., Service, Steel Heddle Mfg. Co. Co., Greenville, S. C.
Wooten, J. A., O-Weaving, Manetta Mills, Lando, S. C.

Improved Opening Machinery.

(Continued from Page 16)

exhaust fans for drawing cotton from a distance, placed on each side of a central beater, to whose action the cotton is subjected in its passage from the exhaust tubing to the

cages. Between the fan and beater is a regulating disc to control the amount of cotton to be passed to each of the two side fans so that any irregularities in the lap, when the opener is used in conjunction with a lap-forming apparatus, can be remedied by adjusting these discs. The arrangement of a fan and disc on each side of the opener greatly contributes to the equal distribution of cotton over the width of the machine. Over the circular casing, surrounding the upper portion of the beater, an air valve is provided to automatically close the communication between the trunks and the opener and to admit external air to the machine when the latter stops for a full lap. This arrangement prevents an accumulation of cotton taking place at the cages, obviating consequent thick places being formed in the succeeding lap.

Safety Beater Lock.

In order to lessen the number of accidents and in keeping with the policy of many mills to reduce the chances of accident to the minimum the H. & B. American Machine Company has designed a safety beater lock which is positive in action and which is fool proof.

This lock is designed so that it is impossible to start the machine when the beater cover or glass door is open and it is equally impossible to open either of these before locking the machine. This device is simple of construction and very durable and has been approved and recommended by insurance companies. It can be easily applied to old machines by the mill machinist.

Cotton Used in April

Washington, May 14.—Cotton consumed during April amounted to 480,010 of lint and 41,030 of linerts consumed during March this year and 576,514 of lint and 52,595 of linters in April last year, the census bureau announced today.

Cotton on hand April 30 was held as follows:

In consuming establishments 1,328-273 bales of lint and 130,245 of linters compared with 1,498,266 of lint and 126,149 of linters so held on March 31 this year, and 1,878,198 of lint and 179,941 of linters so held on April 30 last year.

In public storage and at compresses, 1,512,086 bales of lint and 83,-344 of linters, compared with 1,-983,544 of lint and 89,032 of linters so held on March 31 this year, and 1,935,-714 of lint and 53,807 of linters so held on April totalled 40,436 bales, compared with 49,832 in March this and 37,271 in April last year.

Exports during April totalled 320,-774 bales, including 9,561 bales of linters, compared with 332,168 including 17,091 of linters in March this year and 259,984 including 2,769 of linters in last year.

Cotton spindles active during April numbered 31,871,665 compared with 32,392,171 in March this year and 35,512,737 in April last year.

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

Improved Opening Machinery

(Continued from Page 7)

recognized as one of the most important departments in a cotton mill.

Practical students of cotton yarn manufacturing realize that beating cotton in a picker injures the staple. Therefore, since the introduction of vertical openers, which relieves the amount of cleaning to be done by a lapper, beater speeds have been greatly reduced. It is now rare to find a beater running in an up-to-date mill at the old standard speed of 1,500 R.P.M. for a two-blade beater. It is also clearly understood that an overworked picker cannot turn out even laps. Inasmuch as the lappers are inexpensive compared to the poundage they produce, we do not think a mill should sacrifice evenness on account of the expense of an addition of one or two more lappers. The entire picking equipment for a mill costing a million dollars often costs less than $15,000.

Many mills now find that by using a Morton distributor and an evener on their breaker that they can do just as well with two processes of picking as they can with three. The advantage of the doubling on the intermediate picker should not be disregarded and should be offset by evening equipment. In many cases mills can better their picking by using their present picker equipment by going to two-process picking and adding eveners to the breakers, and using a Morton distributor. The extra breakers and finishers required to reduce the production per machine can be made out of their present intermediate pickers. This idea is recommended to mills that cannot economically enlarge their present picker room. The intermediate pickers cannot be done away with, without carefully considering every angle. It is true that two-process picking will show a better breaking strength of yarn.

Whitin Picker Room Machinery

(Continued from Page 10)

cost. We recommend the three-bladed beater because it means the same beating per inch of cotton at a reduced speed—again less injury to the stock. The calender roll weighting is placed on the inside of the machines, thereby making the pickers easier to clean and giving them a much better appearance. Due to the very excellent Whitin beater-cover lock it is impossible for the operative being injured by trying to stop a beater with his hand—a foolish sounding fact but one that has happened often in the past.

Let us go back for a minute to a more detailed exposition of the Whitin evener motion. Due to the fact that the cotton passes over the keys of our piano link motion and to the fact that we can bring our keys right up to the feed rolls we believe that we have the most sensitive and efficient evener motion made.

Let us take up briefly our waste picking machinery. Our willow is built to handle all kinds of soft waste with undesirable materials therein—such as floor sweepings, card strips, fly, etc. Its production runs from 4,500 to 7,000 pounds per 10-hour day. In this country we have attached when wanted the automatic feed which cuts the old cost of feeding by hand at least 80 per cent, and which means a better and more even feed.

The Whitin hard waste machine, recently brought out, will handle all kinds of hard waste, the number of sections needed depending on the hardness of the waste. We build this machine in one to eight sections. The cylinders are made with ⅝-inch boiler plate drums, thereby insuring the maximum safety at all reasonable speeds. The entire machine is built to run with the minimum amount of friction and with the maximum ability to cope with the hardest kind of work.

Greenville's Exhibit At The Southern Exposition

Fred L. Bryant, Chairman of Chamber of Commerce committee in charge of the Greenville section of the Southern Exposition to be held in The Grand Central Palace February 2 to 14, 1925, announces that Greenville firms have applied for approximately 1500 square feet of space. The business interests of Greenville have realized that the prominence of an All Southern show held in New York will attract sufficient attention to give nation- wide advertising and have determined to make Greenville's display a conspicuous one.

All products will be strictly Greenville made. The great variety of cloths made by the local mills will be shown. These will include heavy duck, medium weight goods, fancy mixed silk and cotton dress goods and all-woolen worsteds. Spaces have been taken by the dyeing, Bleaching and Finishing Plants and several textile accessory manufacturers will display their products. Many other firms and organizations with national reputations will be represented.

The entire Greenville Section will be under the supervision of the Chamber of Commerce who will show the many advantages offered to new industries. Plans are well advanced to make the annual Acquaintance Tour to New York during the show.

It is also of interest that approximately 60% of the South Carolina space has been applied for.

Lancashire Spindles and Looms.

The number of spindles and looms in Lancashire show a large decrease since 1917, according to a report from Trade Commissioner Hugh D. Butler. The Cotton Spinners' and Manufacturers' Directory lists 57,425,881 spindles on December 31, 1923, a decrease of 1,462,514 since 1917. Details of gains and losses for both spindles and looms in the various manufacturing towns are given in Special Bulletin No. 310, issued by the Textile Division of the Bureau of Foreign and Domestic Commerce.

New Leakproof Sleeve Bearing for Electric Motors

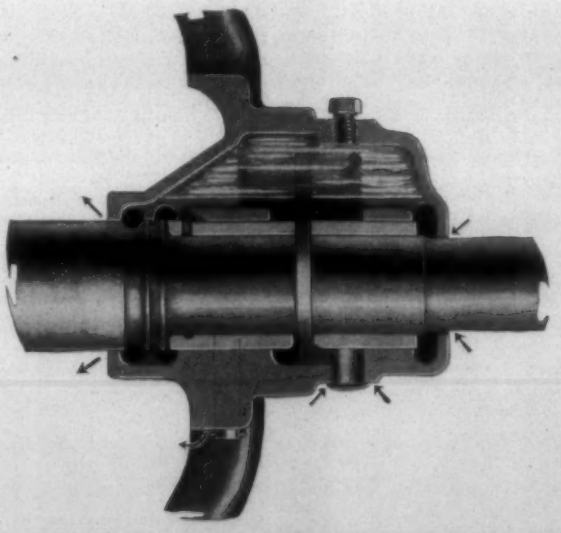
A new type of sleeve bearing for electric motors, designed to prevent the leakage of oil into the windings or the entrance of dust and grit into the bearing, has been developed by the Westinghouse Electric and Manufacturing Company. This new bearing, which is known as the Sealed-Sleeve bearing, is so constructed that it is almost air tight, preventing air from getting in and oil from leaking out.

Motor with the new bearing driving a centrifugal pump in a steel mill. Although it has been in service for many months, there is no oil leakage into the motor, the shaft being actually rusty.

The principal methods used to improve the conventional bearing are comparatively simple. A connecting passage in the upper part of the bearing housing secures a condition of balanced air pressure in the separate chambers into which the housing is divided by the bearing supports. The action of the blower at high speeds sets up a vacuum next to the inside end of the housing and, since it is impossible to seal the housing absolutely at that point because the shaft passes out there, the vacuum is communicated to the space within the housing itself. If the upper passage were not provided, an unbalanced air pressure would result whenever the oil level rose high enough to close the lower cored openings.

For inspection of the oil ring, a large air-tight threaded pipe plug is provided. An enclosed combination filling and overflow opening is placed in the side of the bearing and a rigid cast iron cover is bolted over the oil ring slot and made air tight by an oil proof packing.

Where the shaft passes through the bearing, an improved method of supporting the felt dust-proofing washer is used. For the purpose of lending resilience to the soft felt, the metal cap has a diameter at least one-quarter inch larger than the shaft diameter. This prevents the felt from being compressed close to the shaft, which would cause it to become glazed and hardened and to soon burn and wear out. Since it is left free to expand, it acts like a brush and does not mar or glaze.



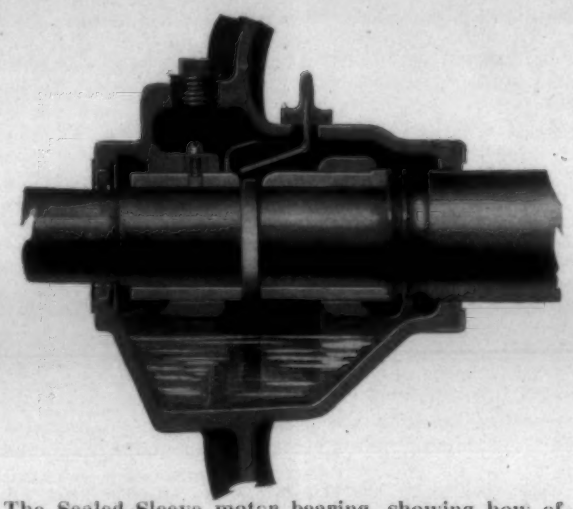
A motor bearing of the conventional design. Note the openings in the housing through which air and dust can enter the bearing. mix with the oil and then be carried into the motor windings.

The air tight construction of the bearing prevents the passage of air through the bearing and at the same time prevents oil from being drawn into the motor windings. The oil ring, carrying oil from the oil well to the motor shaft, stirs up and churns the oil into a fine spray, which, in the ordinary type of bearing, is sucked into the motor and

covers the windings. The Sealed-Sleeve bearing is sealed so thoroughly that the escape of oil from the bearing is prevented.

The manner in which the bearing is sealed against the entrance of air impurities it contains but by its breakdown as a lubricating medium.

By absolutely preventing oil leakage, the Sealed-Sleeve bearing prevents weakening of the motor insulation by the lubricating oil and the resultant grounds and short circuits, which frequently result in delays and expensive repairs.



The Sealed-Sleeve motor bearing, showing how effectively this bearing is sealed against the entrance of air or dust and prevents the leakage of oil or oily vapor into the motor.

makes it immune to most conditions of dirt, dust and grit. No gritty substances can enter to mix with the lubricating oil and cause wear of the bearing shell or shaft. Clean oil is always supplied to the bearing and the life of the lubricating oil is determined not by the amount of

The bearing requires practically no attention and oiling once or twice a year is generally all that is necessary.

Southern Mills Must Add 450,000 H. P. in Ten Years

Washington, May 14.—Cotton mills of the Southeastern States will require additional power equivalent to 450,000 horsepower in the next 10 years, E. A. Yates, general manager of the Alabama Power Co., today told the Senate Committee on Agriculture, which is considering bids for the disposition of Muscle Shoals.

Mr. Yates declared that the normal growth of business of Southern power companies, which have submitted an offer for the Goverment's hydro-electric and other developments on the Tennessee river, in a decade will exceed all the water power developments possible in that area and will require supplemental electric plants operated by steam.

The power companies propose to link Muscle Shoals in a super-power system with a network of lines throughout the Southeast, Mr. Yates declared.

Speaking of the textile mill situation, the witness further said:

"Alabama, in 1922, grew 835,000 bales of cotton, of which 382,000 bales, or 44.5 per cent, were manufactured into the finished product in that State. With one exception, where a cotton mill in Alabama owned and operated its own indivual water power plant, over a period of 10 years, 80 per cent of the cotton spindles in Alabama have discarded isloated steam power for public utility hydro-power.

"In North Carolina, 1922, there were grown 852,000 bales of cotton, while it manufactured into the finihed product 1,207,000 bales, or 355,000 bales more than it produced.

"South Carolina, in the same year produced 530,000 bales and imported for manufacture into a finished product 393,000 bales more than it produced.

"Louisiana, in 1922, produced 357,000 bales of cotton and manufactured into a finished product only 46,000 bales, or 13 per cent of its production.

"Mississippi, in the same year, produced 1,010,000 bales of cotton and manufactured only 48,000 bales, or 4.8 per cent.

"It is interesting to compare the cotton spindles in these States. In the cotton States having hydro-power, Alabama, in 1922, had 1,300,700 spindles; North Carolina, 5,292,800 spindles, and South Carolina, 5,090,000. In those States without hydro-power, Louisiana had in operation only 103,000 spindles, and Mississippi 172,000 spindles.

"It has been stated that a bale of cotton produced in Mississippi and shipped to another State for conversion into a finished product would leave in Mississippi $150. If manufactured into a finished product in Mississippi, it would represent in finished product, wage and manufacturing costs in that State approximately $1,700."

Power Company May Add to Catawba Hill.

Rock Hill, S. C.—That the Southern Power Company plans to make improvements to the Catawba dam, near Rock Hill, at the cost of several million dollars, in the near future, is indicated by information coming from what is considered here as reliable sources.

Deterioration of Duck When Waterproofed

(Continued from Page 14)

the pieces were detached from the boards, brought to the laboratory, dried overnight in an electric oven at 54 deg. Cen., and then tested for their comparative water-resistance by the modified funnel test, being rated on a basis of 10. The funnel test was repeated on all pieces from one to three times and the ratings were averaged. Many of the pieces were also tested by the modified spray test.

After the laboratory tests for water-resistance of the exposed samples were completed, the same pieces were used for tensile strength tests by cutting each into five strips, 8 in. long in the warp direction and 1¼ in. wide, and then pulling out the warp yarn from both sides of the narrow strips until 46 threads, equivalent to a width of 1 in. in the original canvas, remained. They were then placed in the constant-temperature and humidity room and allowed to condition at 65 per cent relative humidity and 70 deg. Fah. The tensile strength was determined at this condition by means of a standard type of tensile strength tester. The results recorded in the tests are an average of five breaks in every case. The effect of the treatments upon the tensile strength of the exposed duck is expressed as percentage gain or loss, calculated from the tensile strengths of the treated and exposed samples and using the average strength of the exposed untreated samples as the basis of comparison.

With all the treatments which contained pigments other than asphalt or pitch, the tensile strength of the treated canvas after exposure was lower than that of the untreated canvas after exposure, and in many cases the deterioration was great.

This general result differs strikingly from that obtained in previous experiments with yarn, the treated samples of which in most cases showed a greater tensile strength after one year's exposure than did the untreated yarn after exposure. The reasons for this difference are not perfectly clear. Probably, however, the different method of exposure, resulting in subjection of the canvas to much higher temperatures than the yarn, and the different methods of applying the treatments are important factors.

Canvas subjected to treatments consisting of a mixture of 85 per cent mineral wax and 15 per cent of beeswav and that subjected to raw linseed oil treatment showed decided deterioration, being from 63 to 84 per cent weaker than the untreated canvas after exposure. Yellow petrolatum apparently had a greater deteriorating effect than any other material used. When petroleum asphalt was substituted for beeswax a somewhat higher tensile strength was obtained, and as the quantity of asphalt was increased and that of the petrolatum decreased proportionately, the tensile strength increased. When coal-tar pitch was substituted for petroleum asphalt, there was a somewhat greater increase in strength. When lead oleate was substituted for a portion of the amorphous mineral wax, the strength was slightly increased, and the substitution of copper oleate for lead oleate for lead oleate caused a still greater increase in strength.

Dark petrolatum and amorphous mineral wax have practically the same water resistant qualities when 15 per cent of beeswax is mixed with them. Yellow petrolatum which has a lower melting point and less viscosity than dark petrolatum, gave a much lower water resistance rating when mixed with the same amount of beeswax than did the other two petroleum "greases." When an excess of asphalt (75 per cent) was combined with either dark or yellow petrolatum, the water resistance ratings were the same, being increased to 10 in each case. The substitution of 20 per cent of lead oleate for the same amount of amorphous mineral wax increased the water resistance. Neither copper nor calcium oleate (20 per cent) was as effective from a waterproofing standpoint as lead oleate in formulas containing no asphalt. Apparently, there was no difference in water resistance when an excess of asphalt (60 per cent) was used. A noteworthy point in connection with these results is that whenever petroleum asphalt or coal tar pitch was included in the preparations, the water resistance ratings were high. Other experiments have shown that natural refined asphalts give similar results. Of the four materials used alone, beeswax gave the highest water resistance rating, viz., 10.

Pigments, when added to waterproofing treatments which are known to have injurious effects on canvas exposed to the weather ma-

terially reduce such effects. In fact, many of the pigments used had a preservative effect, the strength of the treated fabric after exposure being greater than that of the untreated canvas after exposure. This effect of pigments in retarding the deterioration of waterproofed canvas exposed to the weather undoubtly is due to the fact that they form a coating on the surface of the fabric, which tends to shut out the light. A somewhat similar effect is obtained by the use of bituminous materials. This might explain why treatment with preparations containing an excess (over 50 per cent) of asphalt or pitch usually left the canvas stronger after exposure than when it was subjected to other treatments. The fact that the treatments containing coal-tar pitch gave higher results than similar treatments containing petroleum asphalt was probably due to the darker surface coating obtained in the case of the pitch. An inspection of the canvas indicated that the petroleum asphalt, being more completely dissolved, had penetrated the fabric, leaving less color on the surface.

Canvas subjected to the base treatment of petrolatum and beeswax with the addition of various pigments was, after exposure, from 1.7 to 8.3 times as strong as canvas subjected to the base treatment alone. No great significance can be attached to the fact that two samples of apparently the same pigment —in one case dry and in the other case ground in oil—differ with respect to effectiveness in preserving the strength of the treated canvas. Apart from the possible effect of linseed oil, the pigment in two different samples might vary in chemical composition and physical properties.

As a result of adding pigments to the linseed oil treatment, six months exposure caused less reduction in tensile strength of the treated canvas than was shown by exposed canvas treated with the oil alone. This was true in every case, the strength after exposure being from 1.3 to 2.6 times as great as the strength of the canvas treated with boiled linseed oil without pigment.

The addition of pigments to yellow petrolatum and beeswax resulted in increased water resistance ratings. The addition of burnt umber to two preparations containing an excess of asphalt and having very high water resistance ratings did not affect their ratings. The addition of pigments to commercial, boiled linseed oil had the general effect of slightly increasing the water resistance.

Canvas treated with three commercial preparations free from pigments showed marked deterioration in tensile strength and also how water resistance after six months exposure.

All treatments which permitted the canvas to show after exposure a tensile strength of at least 38 kilog. (the strength of the untreated canvas after exposure) and a water resistance rating of 9 or 10 by the funnel test, are considered satisfactory for increasing the service ability of cotton duck for outdoor uses. Since only such preparations as contained pigments come within this classification, it is probable that the treatments would also be improved by the addition of the same pigments, and that, in general, the use of pigments in waterproofing treatments is beneficial.

When added to linseed oil treatments, pigments have more or less of a stiffening effect, sometimes making the canvas too stiff for purposes which require folding. Zinc oxide had the greatest stiffening effect, and lampblack and aluminium bronzing powder probably had the least.

In commercial waterproofing preparations where there is a choice between light-colored or colorless and dark-colored varieties, the dark colors, such as buff or brown, will probably prove more durable.

Butterworth Southern Plant Now in Operation

After rather extensive interior alterations, the Greenville, S. C., plant of H. W. Butterworth & Sons Co., Philadelphia, has just started to operate.

This place was taken over by the Butterworth organization several months ago. It was formerly operated by the Greenville Foundry and Machine Company. The foundry has been sub-let to the Greenville Steel & Iron Works, who, in addition to operating for themselves, will also make castings for the Butterworth Company. The foundry has a capacity up to 10,000 pounds.

For the present, machine work only will be done in the new Butterworth shop. It has been decided, however, to offer facilities of the shop to Southern manufacturers who might wish to have machine work done here which they cannot do in their own machine shops.

The Butterworth shop has a complete equipment, including shapers, planers, lathes, drill presses and grinding machines, as well as cranes which insure transportation from machine to machine without loss of time. There is also a railroad siding direct to the loading and unloading platform of the shop.

In speaking of the new shop going into operation, J. Ebert Butterworth, treasurer of the company, who is in charge of the Southern office, located in the Woodside building, Greenville, said:

"We feel that we should give to Southern manufacturers every aid which can be given. Along this line, while it is entirely possible that our own work will keep our shop pretty busy, still we will always try to find time to do as promptly and efficiently as possible any work sent to us. We did not in the beginning think of taking in outside work, but the question has been asked of us so many times that we thought it best to throw our entire facilities open to the manufacturers of the South.

"Another question which has been asked of us many times is how soon we will be ready to refill rolls. I would say that about six weeks will be required to put in the large presses. The foundation for these is now being made ready."

Cotton Goods

New York.—Prices were somewhat firmer on the unfinished lines of cotton goods last week, having strengthened some in keeping with the stronger cotton markets. Finished goods, however, continued weak, with prices showing much irregularity. There was practically no contract business placed, almost all sales being made of small lots to fill in with. Curtailment of production showed a further increase for the week.

Several lots of styled goods sold at concessions from opening prices, both in first and second hands. Business in staple domestics was slow, with neither jobbers or wholesalers showing a disposition to buy in anticipation of their fall requirements. Ginghams showed little change for the week, especially for staple lines. Bleached cottons sold in small quantities only. Trading in wide sheetings, sheets and pillow cases was quiet. Colored goods in almost all styles were quiet.

Trading in print cloths and sheetings showed some improvement on Friday and Saturday. Many mills refused to take business for future deliveries at prices at which they sold spots. Sales of print cloths amounting to 10,000 pieces or more for delivery in June and July were reported at 8⅞ cents, and a number of sales at similar prices were declined by mills. Some business in narrow cloths was reported on the basis of 6⅝ cents for 27-inch 64x60s.

Sales of sheetings were not as large as print cloth sales and mills were firmer in their price ideas and turned down considerable business at the prices bid.

Some new business in English broadcloths was done for June delivery, but the domestic price on the low counts has been moved up to 22½ cents.

There is variation in some of the prices heard on sheetings. For instance, one report tells that some 37-inch, 48 squares, 4.00 yard sold at 10¼ net. Other reports tell of 10⅛ net, and some that one-sixteenth less had been paid. So for the 56x60, 4.00 yard, 11 net is reported, but several want one-quarter more when the quantity is under 100,000 yards or so. There are reports of some continued interest in 6.15 yard, but the buyers want to buy at a little under the market. The quotation is 7¼ net, and a few state they had been unable to do one-eighth less for a fair-sized quantity, either nearby or later.

It has been difficult to arouse any appreciable interest in cotton duck this week though buyers have the same opportunities for economical purchases they have had for several weeks past. Buyers claim considerable difficulty in finding wide and sail duck under 40 and 5 per cent off. First hands, however, have some unwanted constructions at 45 per cent off. Some clearance army duck in heavier weights have been sold for 47½ cents, no freight. For 8 and 8.42-ounce goods 50 cents would represent a low price, freight paid. Enameling duck has been quoted lower on assured business with 4½ cents basis for 72-inch heavier weights.

In analyzing the tire and automobile industry for the first quarter of 1924 as compared with the same period in 1923 a leading fabric official arrived at these conclusions: 1924 tire production, 13,235,544; in 1923, 12,658,983; 1924 shipments, 11,594,784; 1923, 11,683,641; 1924 equipment, 4,206,000; 1923, 4,002,191; 1924 replacement, 7,388,784; 1923, 7,681,450, or 4 per cent increase. Old cars ni use January 1, 1924, 12,281,412; January 1, 1923, 9,275,246, or an increase of 32 per cent. Inventories on March 31, 1924, 6,134,000; same date 1923, 5,700,000, or 7.6 per cent increase in 1924.

Cotton goods prices were quoted as follows:

Print cloths, 28-in., 64x60s	6⅞
Print cloths, 27-in., 64x60s	6⅝
Gray goods, 38½-in., 64x64s	9¼
Gray goods, 39-in., 68x72s	10⅛
Gray goods, 39-in., 80x80s	13½
Brown sheetings, 3-yard	14¾
Brown sheetings, 4-yard	12
Brown sheetings, stand.	15¾
Ticking, 8-ounce	26
Denims	24½
Staple ginghams	15
Kid finished cambrics	9½a10½
Dress ginghams	18½a21
Standard prints	9¾

Japanese Silk Cocoon Production.

The cocoon production of Japan for 1923 amounted to 6,685,789 koku (kodu equals 5.12 bushel), valued at 669,347,191 yen (yen equals $0.3992 at current exchange), according to a report issued by a Japanese bank, based on figures collected from local authorities and local raw silk associations.

The Yarn Market

Philadelphia, Pa.—The yarn market showed very little change last week. The higher cotton markets exerted an influence toward higher prices, but the lack of demand offset this tendency. The range of prices for the whole yarn list showed practically no change from last week's prices. While there was a small amount of buying of the coarse counts of carded yarns during the week, the total amount of yarns sold was small. Combed yarns were dull, especially in the finer counts, which are even less active than the coarser numbers. Business on the whole was confined to hand-to-mouth buying, there being practically no contract business of importance.

Curtailment of production has shown a slight increase in the South in the past ten days and there are reports here that more mills will go on short time within the next week or so.

Dealers handling spot lots continued to shade prices, making small sales at prices considerably lower than the mills would accept. Mill prices have held up well in the face of poor demand. There is a growing opinion here that the yarn market is gradually becoming stronger, due to the influence of curtailment. Stocks are not regarded as large and it is hoped that the market will soon work itself to a basis where buyers and sellers can find a price that will lead to more active trading.

Concerning yarn stocks in dealers' or spinners' possession, reports are still unchanged as to such supplies being much smaller than could be regarded as burdensome, even taking into consideration that demand by consumers is so far below normal. When spinners or dealers have substantial stocks, period of dullness generally brings to light many reliable indications of the existence of such stocks. These signs are not in evidence at present.

Yarn prices in this market were published as follows, although these quotations generally are below mill prices:

Two-Ply Chain Warps.

2-ply 8s	42	a	2-ply 24s	48½	a49½
10s	43	a44	2-ply 26s	50½	a51
12s to 14s	44	a45	2-ply 30s	52	a
2-ply 16s	46	a	2-ply 40s	61	a
2-ply 20s	46½	a47	2-ply 50s	72	a

Two-Ply Skeins.

8s	42	a	40s	59	a
10s to 12s	42½	a43½	40s ex.	64	a65
14s	44	a	50s	72	a
16s	45	a46	60s	80	a81
20s	46	a	Tinger Carpet—		
24s	48	a48½	3, 4-ply	38	a
26s	49½	a50	White Carpet—		
30s	51	a51½	3, 4-ply	41	a

Part Waste Insulating Yarn.

6s, 1-ply	36	a	12s, 2-ply	40	a41
8s, 2, 3 and 4-ply	36½	a	20s, 2-ply	45½	a46
10s, 1-ply and 2-ply	88	a	26s, 2-ply	49½	a50
			30s, 2-ply	51	a51½

Single Chain Warps.

10s	43	a	24s	48	a
12s	44	a	26s	50	a
14s	44½	a	30s	52	a53
16s	45	a	40s	61	a
20s	46	a			

Single Skeins.

6s to 8s	41½	a	20s	45½	a46
10s	42	a	24s	48	a
12s	43	a	26s	49½	a
14s	43½	a	30s	51	a52
16s	44	a			

Frame Cones.

8s	41	a	22s	45½	a46
10s	41½	a	24s	46½	a
12s	42	a	26s	47	a
14s	42½	a43	28s	48	a
16s	43½	a44	30s	50	a51
18s	44½	a	30s ty'g in	48	a49
20s	45	a	40s	58½	a59½

Combed Peeler Skeins, Etc.

2-ply 16s	60	a	2-ply 50s	78	a
2-ply 20s	63	a	2-ply 60s	80	a83
2-ply 30s	66	a	2-ply 70s	98	a
2-ply 36s	68	a	2-ply 80s	1 12	a
2-ply 40s	70	a72			

Combed Peeler Cones.

10s	50	a51	30s	63	a65
12s	51	a52	32s	63	a65
14s	52	a53	34s	65	a67
16s	53	a54	36s	70	a71
18s	54	a55	38s	70½	a71½
20s	55	a	40s	71	a72
22s	55	a56	50s	78	a80
24s	56	a56½	60s	85	a
26s	56½	a57	70s	1 00	a
28s	57	a58	80s	1 10	a

Carded Peeler Thread Twist Skeins.

20s, 2-ply	54	a	36s, 2-ply	64	a
22s, 2-ply	55	a	40s, 2-ply	62	a
24s, 2-ply	57	a	45s, 2-ply	73	a
30s, 2-ply	59	a	50s, 2-ply	78	a

Carded Cones.

10s	46	a	22s	52	a
12s	47	a	26s	55	a
14s	48	a	28s	56	a
20s	51	a	30s	58	a

Barbados Shirt Market.

There are about 80,000 adult males in the Barbados consular district and cheap negligee shirts, including work shirts, are readily salable there. During the war the United States gained control of this market, although during the last three years British manufacturers have regained the leading position. Consul Watson at Bridgetown believes t hat American shirts could still be sold by vigorous salesmanship. Wholesale prices of shirts now on sale vary from $7.50 to $14.90 per dozen. It would be necessary in order to enter the market to proceed with great tact and courtesy since during the war some American salesmen created a bad impression by their methods of doing business.

Alexandria Cotton Goods Stocks.

On January 31, there was in the bonded warehouses of Alexandria a stock of cotton goods amounting to 6,720 bales and cases. The stock on February 29 showed an increase and amounted to 7,882 bales and cases. On March 31 the stock had decreased to 7,767 bales and cases. Of the aforementioned totals, the stock of Manchester goods amounted to 2,821 bales and 379 cases on January 31; 3,224 bales and 491 cases on February 29; and 3, 198 bales and 405 cases on March 31.

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We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern textile industry.

WANT position as superintendent or will take place as overseer, carding spinning or weaving, prefer weaving. Now employed in good North Carolina mill, but wish to change for better place. Best of references. No. 4135.

WANT position as overseer carding in good sized room. Prefer Georgia or Alabama. Eighteen years as overseer in good mills. Now overseer in large mill but have good reasons for wishing to change. Age 48, have family, have good textile education and can run the job. No. 4136.

OVERSEER carding, now employed, wishes to make change. My experience and training fit me to handle large job in good mill. Good manager of help, first-class references as to character and ability. No. 4137.

WANT position as superintendent yarn mill of 10,000 to 15,000 spindles. Age 46, married, long practical experience, 12 years as superintendent. Now employed but have good reasons for making change. References. No. 4138.

WANT position as slasher tender or second hand in spinning. Well qualified for either place. Best of references. No. 4139.

WANT position as roller coverer. Am expert in roller covering and can demonstrate my ability in short time. Now employed in good mill. Want to correspond with mill needing man of unusual ability. No. 4140.

WANT position as overseer of carding. Long experience in handling a combination of both rooms and can get excellent results. Good references. No. 4148.

WANT position as electrician with good mill or some other manufacturing plant. Have had 15 years' experience. Can furnish excellent references. No. 4149.

WANT position as superintendent, or would accept place as carder or spinner. Practical man of long experience as both superintendent and overseer. Best of references. No. 4150.

WANT position as overseer carding or spinning, or master mechanic and electrician. Employed at present but have good reasons for making a change. Can come on ten days' notice. First-class references. No. 4151.

WANT position as overseer carding and spinning. Am 44 years old and have had 20 years' experience as overseer and assistant superintendent. Can furnish best of references. No. 4152.

WANT position as overseer plain weaving or overseer cloth room. Have had more than 25 years' experience on practically all kinds of goods. Am qualified to handle either position. Age 46, have family. Best of references. No. 4153.

WANT position as overseer spinning. Have had long experience in the spinning room and have taken a course with the I. C. S. Good references. No. 4154.

WANT position as overseer of slasher department. Age 32, eight years' experience as slasher and beamer. Good references. No. 4154.

WANT position as overseer weaving. Long experience on wide variety of fabrics and am capable man in every respect. Good references from past and present employers. No. 4156.

WANT position as superintendent of tire yarn or fabric plant, or fine combed yarn mill. Now located in East, but have had 6 years' experience in South. Long term of services superintendent and overseer and am reliable man who can get excellent results. Excellent references. No. 4157.

WANT position as overseer cloth room. Long experience on lawns and sheetings and can guarantee satisfaction. Good references. No. 4158.

WANT position as overseer of small card room or second hand in large room. Am also excellent card grinder. Long experience in good mill. A-1 references. No. 4159.

WANT position as superintendent. Have had 18 years as such and am now employed in my 19th year. Can handle yarn or cloth mill and am high class, practical man. No. 4160.

WANT position as overseer carding or spinning, or both. Past experience and training fits me to handle job in efficient manner. Good references. No. 4161.

WANT position as overseer spinning, or overseer weaving. Long experience in good mills in both departments. Reliable, steady man of good habits. Excellent references. No 4162.

WANT position as master mechanic. Now employed. Experienced in both steam and electric plants and can handle work in satisfactory manner. Good references. No. 4163.

WANT position as overseer spinning, experienced for many years on both carded and fine combed yarns. Would like to correspond with mill needing high-class man. Excellent references. No. 4164.

WANT position as overseer weaving. Experienced on many different fabrics and am competent and reliable. No. 4165.

WANT position as superintendent. Fitted by training and experience to handle large mill in satisfactory manner. Good references. No. 4166.

WANT position as superintendent; yarn mill preferred. Now superintendent of good yarn mill and have held job for over two years. Giving entire satisfaction. Thoroughly understand carding and spinning. 15 years as superintendent and overseer. Good references. No. 4167.

WANT position as superintendent of cloth mill. Long experience and can give references from many mill executives to show excellent record of past service. No. 4168.

WANT position as superintendent of yarn or cloth mill. Now employed as night superintendent but wish day job. References to show ability, character and past record. No. 4169.

WANT position as superintendent or will take overseer's place in any department. Thoroughly qualified to handle any room in the mill. Best of references. No. 4170.

WANT position as superintendent or carder and spinner. Will go anywhere. Prefer yarn mill of 5,000 to 30,000 spindles. Can come at once. Best of references. No. 4176.

WANT position as carder or spinner. Ten years' experience in carding, spinning and winding. Now employed, but will change on short notice. Age 37, with family. References from present and past employers. No. 4172.

WANT position as superintendent. Practical man, good pusher, can get quality production on all classes of yarns. Good references. No. 4173.

WANT position as overseer spinning. Practical man of long experience on practically all yarn counts made in South. Good references. No. 4174.

WANT position as overseer spinning. Have had 20 years' experience in spinning, spooling and warping in some of best mills in South, and West, both white and colored work. Age 36, married, sober, now employed as overseer. Good references. No. 4175.

WANT position as superintendent or would take overseer of carding and spinning. Many years' experience as superintendent and overseer and am well qualified in every respect. Best of references. No. 4171.

SUPERINTENDENT or carder and spinner desires position. Would take place as night superintendent in large mill. Prefer mill on plain work. Satisfactory references. No. 4177

WANT position as superintendent of mill or plain weaving or hosiery yarn. Am now 32 years of age and can give good references. Now employed as superintendent. No. 4178.

WANT position as superintendent or assistant superintendent in medium size mill. Would consider weave room in large mill. Best of references. No. 4179.

WANT position as spinner. Age 48. Have had 20 years' experience and can give excellent references. No. 4180.

WANT position as superintendent of finishing in yarn plant. Long experience in large Eastern mill and have excellent record of service. Fine references. No. 4181.

WANT position as carder or spinner, or box comber. Am specialist in combed yarn work and have had a long term of satisfactory service. Excellent references. No. 4182.

WANT position as shipping clerk. Four years' experience and can handle big job. Now employed as shipping clerk. Gilt-edged references. No. 4183.

WANT position as carder and spinner. Now employed as such, but wish a larger place. Experienced, practical and reliable man. No. 4184.

WANT position as overseer finishing department, white or colored goods. Have had 16 years' experience in cloth room, 12 years as overseer on white and colored goods, wet and dry finish. Best of references. No. 4185.

WANT position as overseer spinning. Have had 12 years' experience as overseer and can furnish best of references. No. 4186.

WANT position as overseer weaving. Can handle either plain or fancy work both colored and white. Now employed. First-class references. No. 4187.

WANT position as superintendent, carder, spinner or carder and spinner. Have acceptably filled overseer's position for long term of years. Best of references. No. 4188.

WANT position as master mechanic and engineer. Experienced and skilled mechanic of long experience. Best of references. No. 4189.

WANT position as overseer spinning. 12 years as overseer and 5 years as overhauler in spinning and twisting. Good references. Address No. 4190.

WANT position as superintendent, or overseer weaving or designer. Have specialized in fancy weaving and designing and can show samples that have proved business getting. Long record of satisfactory service in fine weaving plants. Good references. No. 4192.

WANT position as superintendent of small yarn mill or carder and spinner in larger mill. Have had 20 years as overseer. Good references. No. 4191.

WANT position as superintendent or carder and spinner. Now employed but want better job. First-class references. No. 4193.

WANT position as superintendent. Prefer weaving mill. Practical man of long experience on great variety of fabrics. Good references No. 4194.

WANT position as overseer carding anywhere in South. Long experience and also graduate of I. C. S. Good references. No. 4197.

WANT position as overseer spinning, twisting or winding at not less than $40 weekly. Have had 25 years in the mill. 10 years as overseer, have run present room 3 years. Good references. No. 4195.

WANT position as overseer weaving. My experience has been as overseer in a number of large weave rooms and many kinds of goods. Excellent references. No. 4196.

WANT position as overseer of small weave room on plain goods. Am hustler for quality production and good manager of help. Good references. No. 4198.

WANT position as carder or spinner or superintendent. Now employed. Many years as both superintendent and overseer and am competent worker. Good references. No. 4199.

WANT position as carder. Have had 7 years as overseer and can give first-class references. No. 4200.

WANT position as superintendent of yarn or weave mill, or overseer weaving. Long experience in carding, spinning and weaving and winding and can give good references. No. 4201.

WANT position as superintendent of yarn mill. Prefer plant on tire fabrics. Experienced man of good habits and character and can give good references. No. 4202.

WANT position as overseer weaving on any kind of plain work; 12 years as overseer and have always been able to get the goods. Now employed but have good reasons for changing. Good references. No. 4203.

WANT position as spinner. Have held present job for over 6 years and made good record. Can get quality production at right price. Good references No. 4203.

WANT position as carder or carder and spinner. Am hustler for production and quality and know how to keep costs down. No. 4204.

WANT position as superintendent of yarn mill. Have had 12 years' experience. Have finished course in grading and stapling cotton. Know mill business thoroughly. Best of references as to character and ability. No. 4206.

WANT position as carder in small mill or second hand in large mill. At present employed by good mill but desire to change. Good references as to character and ability. No. 4207.

WANT position as carder. Thoroughly understand the carding process and have long term of experience in good mill. Best of references. No. 4208.

WANT position as superintendent. Experienced and reliable man who can get results. Experience gained in some of the best mills in the Carolinas. Excellent references. No. 4209.

WANT position as superintendent. Am competent executive and good manager of help, experienced in all departments of mill and man of good character and habits. Best of references. No. 4210.

WANT position as superintendent of medium sized yarn mill or assistant superintendent in large mill. Prefer mill in Georgia, Alabama or Missippi. Long experience as overseer spinning. Have held present place as assistant superintendent for many years, making 4s to 40s single and ply cones, tubes, skeins and warps. References. No. 4111.

WANT position as superintendent or overseer carding and spinning. Am 41 years old, have had 20 years' experience as overseer and superintendent of mills in Georgia. Can give good references as to character and ability and can come at once. Good manager of help. No. 4113.

MASTER mechanic and chief engineer of extraordinary ability will consider proposition by March first. Fine machinist and mechanical engineer. Correspondence strictly confidential. No. 4114.

WANT position as superintendent of yarn mill, or would accept place as carder and spinner. Practical man of long experience who can get results and who can successfully manage help. References. No. 4423.

WANT position as overseer carding. Qualied by experience and training to handle card room in thoroughly practical and up-to-date manner. Good references. No. 4224.

WANT rposition as superintendent o overseer large weve room. Now employed as superintendent but would like better job. Have long record of successful service and references to show it. No. 4225.

WANT position as overseer weave room or cloth room. Now employed, but wish larger job. Experienced on many lines of goods, competent and reliable. References to show character and ability. No. 4226.

WANT position as assistant superintendent. Age 25, graduate of well-known textile school, three years' experience in all departments of mill, two years as manager of testing laboratory in large mill. Excellent reference. No. 4227.

WANT position as overseer weaving. My experience covers a long term of years in a number of first-class mills, making a wide variety of goods. Excellent references. No. 4228.

WANT position as carder and spinner, either or both. Age 35, have family. Experienced man who can give as reference some of the best mills in the South. No. 4231.

WANT position as overseer of weaving or superintendent of plain weaving mill. Long experience as both superintendent and overseer and can get excellent results. No. 4333.

WANT position as overseer carding. Now employed as night carder, but wish day job. Have had 20 years' experience in carding, spinning, spooling and warping, both white and colored work. Can furnish good references. No. 4234.

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Hyatt Roller Bearing Co.

ROLLER CLOTH—
Best, Edward H. & Co.

ROOFING—
Lupton's, David, Sons, Inc.

ROVING CANS AND BOXES—
Rogers Fibre Co.

ROVING MACHINERY—
Whitin Machine Works.
Saco-Lowell Shops.

SADDLES—
Dixon Lubricating Saddle Co.

SANITARY EQUIPMENT—
Vogel Co., Joseph A.

SANITARY FOUNTAINS—
——See Drinking Fountains.

SASH, STEEL—
Lupton's, David, Sons Co.

SCALLOP MACHINES—
Merrow Machine Co.

SCOURING POWDERS—
Bosson & Lane.
Nichols Mfg. Co

SESQUICARBONATE OF SODA—
Mathieson Alkali Works, Inc.

SECTION BEAM HEADS—
Mossberg Pressed Steel Corp.

SELLING AGENTS (COTTON GOODS)—
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Converse & Co.
Curran & Barry.
Joshua L. Baily & Co.
W. H. Langley & Co.
Leslie, Evans & Co.
Tatum, Pinkham & Greey
Wellington, Sears & Co.

SEWING MACHINES—
Merrow Machine Co.

SHAFTING, HANGERS, ETC.—
——See Power Transmission Machinery.

SHAFTING—
Fafnir Bearing Co.
William Sellers & Co., Inc.
Wood's, T. B., Sons Co.

SHELL STITCH MACHINES—
Merrow Machine Co.
B. F. Perkins & Son, Inc.

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J. N. McCausland & Co

SHELVING STEEL—
Lupton's, David, Sons Co.

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David Brown Co.
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Draper Corp.
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Link-Belt Co.
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H. W. Butterworth & Sons Co.

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Atlantic Dyestuff Co.
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L. Sonneborn Sons, Inc.
Stein, Hall & Co.

SIZING COMPOUNDS—
Arnold, Hoffman & Co., Inc.
Borne, Scrymser Co.
Bosson & Lane.
A. E. Staley Mfg. Co.
Corn Products Refining Co.
Drake Corp.
Hawley's Laboratories.
Seydel-Thomas Co.
United Chemical Products Co

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Lupton's, David, Sons Co.

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United Chemical Products Corp.
Arabol Mfg. Co.
Bosson & Lane.
Wolf, Jacques & Co.
Metz, H. A., & Co., Inc.
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Seydel Chemical Co., The.
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J. B. Ford Co.
Mathieson Alkali Works, Inc.

SOFTENERS (Oil)—
Bosson & Lane.
E. F. Houghton & Co.

SOLOZONE—
Roessler & Hasslacher Chemical Co.

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Draper Corp.
Saco-Lowell Shops.
Southern Spindle & Flyer Co.
Whitin Machine Works.

SPINNING FRAMES—
SPINDLE REPAIRERS—
Fournier & Lemoine.
Fales & Jenks Machine Co.

SPINNING FRAME SADDLES—
Dixon Lubricating Saddle Co.

SPINNING RINGS—
Draper Corp.
Pawtucket Spinning Ring Co.
Whitin Machine Works.
Whitinsville Spinning Ring Co.

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David Brown Co.
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Jordan Mfg. Co.
Lestershire Spool & Mfg. Co.
Steel Heddle Mfg. Co.
Walter L. Parker Co.
——See Bobbins, Spools, Shuttles.

SPROCKETS, SILENT CHAIN—
Link-Belt Co.

SPOOLERS—
Draper Corp.
Saco-Lowell Shops.
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Rogers Fibre Co.

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Draper Corp.
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Whitin Machine Works.

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Metz, H. A.
Jacques, Wolf & Co.
Seydel-Thomas Co.

WATER WHEELS—
Allis-Chalmers Mfg. Co.

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Sydnor Pump & Well Co

WHIZZERS—
Tolhurst Machine Works.

WINDERS—
Saco-Lowell Shops.
Universal Winding Co.

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Parks-Cramer Co.
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